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ABSTRACT

A study examining the writing of adults who do not consider themselves professional writers but who must master a variety of types of writing in order to meet the day-to-day obligations of their jobs is described in this report. The introduction of the report offers an overview of the work and findings of the study, which was conducted at various governmental agencies to determine whether workers' intuitive distinctions among types of writing could be verified empirically. The introduction points out that one of the important outcomes of the study was the development of research procedures that can be used in nonacademic settings. The second section of the report explains and assesses one of the primary research procedures, discourse-based interviews. The third section presents the findings from the study of writing at a county social services agency. The final section reports the findings of a comparative study of work and school sponsored writing, and discusses the study's implications for teaching. Tables of findings illustrate the text. (HTH)

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WRITING IN NON-ACADEMIC SETTINGS

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During the first year of our study we were assisted by Theodore Whyland. More recently Anne Herrington and Doris Quick have joined the project, taking substantial responsibility for collecting and analyzing data. Anne Herrington and Doris Quick are co-authors of two articles based on sections of this report.

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I

Introduction

Despite the advent of tape recorders and other electronic devices, people must still write a good deal on the job in order to transact and record business. Yet composition teachers and researchers know very little about the nature of this writing and the skills and knowledge people need to accomplish it. Thus, the purpose of this study is to examine the writing of adults who do not consider themselves professional writers but who must master a variety of types of writing in order to meet the day-to-day obligations of their jobs. For research sites, we selected various governmental agencies, ranging from a small county social services agency to a large state labor department.

We began our work at each site by identifying the different kinds of writing workers had to do and noting important variations within a given type. Our primary objective was to examine the reason for these variations: What leads writers to choose one kind of wording or content in one piece of writing and an alternative in another? To what extent are these choices governed by rules learned in school? To what extent are choices governed by writers' understanding of, say, their intended audience, the effect they wish to achieve, or the legal consequences of a document? In addition to answering these primary questions, in one agency we did a statistical analysis of variations in specific features of written texts. Our purpose in doing this analysis was to determine whether workers' intuitive distinctions among types of writing could be verified empirically.

The results of our work have both theoretical and pedagogical value. First, they test the theoretical assumption that writers' awareness of audience and purpose affects the style and substance of what they write (Kinneavy, 1971; Gibson, 1969). Second, they suggest that our understanding of writing in non-academic settings may help us improve the way we teach and use writing in academic settings.

As we shall explain later in this report, research in this area is just beginning. For this reason, continued research is needed before any definitive comments can be made about the full range of non-academic writing and instructional applications. At this initial point, our purposes have been to:

-establish research procedures;

-begin to answer questions about the nature of non-academic writing tasks and the knowledge and strategies writers bring to bear on these tasks;

-speculate upon implications for teaching; and

-identify further needed research.

In this Introduction to our report, we shall offer an overview of our work and findings in all four of these areas. In the second section of our report, we shall explain and assess one of our primary research procedures, discourse-based interviews. In the third section, we shall detail the findings from our study of writing at a county social services agency. In the fourth section, we shall report on the findings of our comparative study of work- and school-sponsored writing and discuss implications for teaching.

Research Procedures

Since there has been relatively little research on writing in non-academic settings, one of our problems has been to identify and develop appropriate research procedures. Thus, over the three years of the study, we have gradually evolved a research methodology that includes three complementary research procedures. The first, analysis of syntax and cohesion, is an accepted means of analyzing the specific features of written texts. The second and third, draft evaluation and discourse-based interviews, were designed by us to elicit information about the knowledge and strategies writers use to accomplish specific writing tasks.

Analysis of Syntax and Cohesion. The purpose of this analysis was to determine whether writers vary certain stylistic features when they write different types of messages, specifically messages that have different purposes and different intended audiences. Thus, at the social services agency, we examined three types of writing: informal memos usually addressed to a single worker and intended to make routine requests or announcements; formal memos usually addressed to a large number of agency personnel and intended to announce or explain administrative procedures; and letters on agency letterhead addressed to people outside the agency and intended to transact or document agency business. For all three types of message, we analyzed sentence length, sentence structure, and words used to link ideas together. More specifically, we examined mean number of T-units, mean T-unit length, mean clause length, mean number of clauses per T-unit, mean number of passive constructions per T-unit, and types of cohesive markers per T-unit (see Section III for details of the text analysis procedures).

Draft Evaluations. For this procedure, we ourselves did some of the writing that was typically done by the workers we were studying. Then we asked these workers to comment on and evaluate our drafts. As they evaluated our writing, the workers revealed a good bit of background information (about the intended readers, for example) and showed us how that information related to the choices they made when they wrote (see Section IV for details). The advantage of this procedure is that it elicits writers' background knowledge as they actually apply it to specific familiar texts, avoiding abstract generalizations made without reference to a text.

Discourse Based Interviews. For this procedure, we identified types of variations in style and content reflected in the writing of each worker. We then modified sections of specific texts and asked the writer if he or she would accept an alternative in the phrasing or content that writer had chosen for the original text. To prepare the interview materials, we first gathered a sample of writing done by each person we interviewed, materials representing the full range of written tasks that person typically did as part of his or her job. We examined these samples, looking for variations, trying to identify the alternatives that were part of each writer's repertoire. After identifying the main types of variations, we then modified specific pieces of writing at four to six points, indicating both the original text and an alternative the writer had used in some other piece of writing. Concerning the following text, for example, we asked the writer whether he would accept these alternatives: using the more formal address ("Mr. Bunch") and excluding the bracketed contextual information:

> Dear Ron:
> [Dear Mr. Bunch:]
>
> [Pursuant to our conversation over the past few months and in line with our need and desire for professional sales coverage in Florida], I am happy to report that you have been chosen to represent the PDS portion of the Acme Amalgamated Product line.

As in all interviews, we stressed to the writer that we felt the passages in question did not need to be changed; we emphasized that we were primarily interested in the reasons for the choice of one alternative over another. In this instance, the writer rejected the alternatives we posed; he insisted on addressing the reader as "Dear Ron" and including the context-setting phrase. His reasons indicate his desire to maintain a rather delicate writer/audience relationship: he wanted to acknowledge a personal relationship with the reader, yet he still wanted to convey that he was the superior in the professional relationship; further, he wanted to avoid a tone that might seem too "stiff," while making it clear that this letter represented an official business transaction. The writer's comments about the context-setting phrase also revealed his awareness of a persuasive strategy: by reminding Bunch that the decision to expand sales coverage was in response to Bunch's previous inquiries, he hoped to subtly motivate Bunch to do his job.

As this example shows, the discourse-based interviews elicit a good deal of specific information about writers' perceptions of their task. We want to stress also that when collected from a group of writers, this information can be reliably analyzed to discern patterns and differences within a particular group and between that group and others. Thus, the procedure enables a researcher to formulate generalizations about the kind of knowledge and strategies that are used by writers when they compose in occupational contexts. The preceding example also shows that the decisions these writers make are by no means simple. The choice of a particular phrasing may seem rather automatic, yet it is often a real choice among alternatives, a choice governed by a writer's rather complex understanding of audience and the means by which to achieve one's purpose with that audience (see Sections III and IV).

Findings

One of the most important outcomes of this study was the development of research procedures which can be used in a wide variety of non-academic settings. Used as a comprehensive research methodology, they enable a researcher to study a problem using a number of data-collection procedures instead of being limited to one data-source. Further, used consistently at a number of sites, they can elicit comparable data for large-scale studies.

We have used these procedures to answer the following questions:

1) To what extent are non-academic writers sensitive to such rhetorical issues as their relationship to their audience or the purpose they wish to achieve?

2) How does awareness of rhetorical context (audience, purpose, persona, and subject matter) differ between people who write for their job and people who write for school courses?

Sensitivity to Rhetorical Issues. People who write as a regular part of their jobs are sensitive to the rhetorical context of the writing they do: that is, they do vary style and substance according to their awareness of the context for a particular piece. Writers' comments about their writing indicate an awareness of the purpose they wish to achieve and the particular writer/

audience relationship they wish to project. Further, our textual analysis of both formal and informal memos written by administrators at the social services agency illustrate this correlation between stylistic features and the writer's understanding of the context for a piece. Informal memos, which administrators used to make routine requests or announcements, contained relatively short sentences and a relatively large number of active voice constructions, stylistic features that seem consistent with these writers' perceptions that these memos were informal directives addressed to a familiar audience. In contrast, formal memos, which administrators often used to announce official policies and procedures, contained longer sentences and a greater number of passive voice constructions, characteristics we associate with a more formal purpose and a more distant writer/audience relationship (see Section III).

Our study of administrators and foster care workers at the social service agency also showed that writing typically associated with different types of jobs entails different types of choices based on different types of reasons. The administrators most frequently wrote memos and letters, forms of writing that often entailed choices about how to phrase commands and requests and whether to elaborate general statements. Their reasons for making these choices related primarily to their concerns about the characteristics and possible responses of their intended audience. On the other hand, the case workers, who most frequently wrote client visitation reports, often made choices about whether to identify the source of a conclusion contained in the reports and whether to include reference to a client's words or actions. The case workers' reasons for these choices related primarily to the subject matter of their reports rather than to their concern for their audience. The text analysis and interview data from the two types of case workers studied (Foster Care and Eligibility) also showed that even when doing the same type of writing and commenting on the same types of choices, writers who hold different jobs with different functions are likely to use somewhat different types of reasons for explaining their choices.

Work-Sponsored versus School-Sponsored Writing. Our comparative study of legislative staff analysts and college writers provides initial evidence that people doing school-sponsored writing and people doing work-sponsored writing differ substantially in the conceptual strategies they bring to bear on their writing and in their perception of the context, purpose, and writer/audience relationship for that writing (see Section IV for detailed analysis of findings). The discourse-based interviews and draft evaluations showed that the staff analysts perceived their writing as part of a larger sequence of events, those that preceded their writing and those that were likely to stem from their statements. In contrast, the undergraduates did not see their writing as existing in any larger context. Moreover, while the legislative analysts saw their audiences as immediate and having a need for the information contained in their writing, the undergraduates perceived a more distant audience who would not actually be reading their writing to learn something or to use it as the basis for making a decision.

In short, the student writers conceived of a writing context quite unlike that of the workers: for the student, writing seemed not to be a part of any sequence of events or decisions, and the audience they were addressing was quite unlike the audiences that legislative analysts usually addressed. Finally, these two groups of writers seemed to be concerned with somewhat different sets as questions. The analysts seemed to be asking questions that would help them develop their ideas: e.g., Is this legislation needed? Who will be affected by it? In contrast, the students seemed to be asking questions that would help them evaluate their writing, but not generate ideas: e.g., Have I answered the question the instructor posed? Have I defined key terms? Very rarely did the students seem to be asking questions that would lead them to draw inferences about the subject: e.g., What are the implications of this event or theory? How does this theory relate to another?

Significance and Implications for Teaching

This study shows that, at least in the institutions where we did our research, writing in non-academic settings varies greatly and is shaped by individual writers' understanding of the contexts in which they write and the purposes they wish to achieve. Our findings are significant for a number of reasons: First, they validate assumptions in rhetorical theory that a writer's purpose and knowledge of audience and subject shape the stylistic and substantive choices made when composing a given piece of discourse; and they extend the work of socio-linguists by showing that situation-specific factors influence writing, as well as speech. Second, these findings elaborate general theory by describing the specific kinds of audience, persona, and subject concerns that influence different writing tasks and different writing purposes. They also describe the kind of functional plans writers develop to generate ideas and compose a text. Finally, our study shows that the contexts for school-sponsored writing can be quite different from those for work-sponsored writing. Indeed, the students we studied seemed to be learning to create texts that existed in no context or larger sequence of events and that would be read by an audience that was not likely to be informed or persuaded by the writing. In essence, they were learning pseudo-transactional writing, in contrast to the transactional writing that characterizes work-sponsored writing.

These findings lead us to speculate that teachers should create writing assignments and contexts that have more of the characteristics of work-sponsored writing. This does not imply that we believe students should be taught only specific types of writing (e.g., disciplinary memos) used in specific occupations. Rather, we believe that students should be taught to be sensitive to the demands of their audience, the purpose they wish to achieve, and the larger consequences of what they write (see Section IV for a more detailed discussion of implications for teaching).

At this point, because our comparative study of non-academic versus academic writing and writing contexts has been limited, we stress that we are only speculating about applications. Further comparative studies are needed as well as experimental studies of instructional applications.

Further Research

We have only begun to describe some of the characteristics of work-sponsored writing and the knowledge and strategies workers use to accomplish that writing. Now that we have developed and tested research procedures that are useful in a variety of non-academic settings, we need a comprehensive study which collects comparable data from various work settings. Are there similarities from one work setting to another? Do writers in different settings draw on similar kinds of knowledge of audience and purpose and use similar composing strategies as a consequence? How do variations correlate with differences in work setting, in job function, and employees' positions in organizational hierarchies?

We also need comprehensive studies that would follow texts from the writer to the reader. Since the purpose of a good deal of business/governmental writing is to communicate vital, yet complex information to lay people or people with limited education, the writer's success in adapting the message to the audience is crucial. To study the success of such communication, we need to study not only the audience assumptions that writers use to shape their messages, but also the ways in which readers comprehend and react to those messages. Such studies would require a variety of research methodologies, combining for example those developed by us and the Document Design Project (American Institutes for Research and Carnegie-Mellon University). We are piloting such a study now at a state health department where a group of scientists are writing Chemical Substance Fact Sheets which are to be read by workers with as little as an eighth grade education. To study the writers' assumptions, we are using both discourse-based interviews and revise-aloud protocols for which the reviser reads the draft aloud, voicing all responses to the text as it is being read, commenting on changes that she makes, and mentioning any alternatives she considers and rejects. After following these Fact Sheets through a number of different levels of revision within the agency, we also hope to follow them to their intended audience and use reading protocols to study the knowledge and strategies readers bring to bear on these texts. By gathering information about both writers and readers, we should be able to answer questions about how writers' assumptions about readers match with actuality and also about what strategies are most useful for writers when they try to adapt their messages to an audience.

Beyond these questions, we feel there is a pedagogical value in learning more about the conceptual strategies writers in non-academic settings use to generate ideas and create text. Are these strategies based on the nature of the subject matter they deal with or on writers' sense of their relationship to their reader? How do writers develop these strategies? More particularly, if we were to study a group of experienced writers and a group of inexperienced writers, would we find them using different strategies? If there are differences, how do inexperienced workers develop the knowledge and strategies that the experienced workers have? Are there developmental traces evident in the features of the inexperienced workers' writing and in their comments about the stylistic and substantive choices they make when they write?

These studies of work-sponsored writing should be complemented with further comparative studies of school-sponsored writing. As we commented earlier, our study has only begun to describe the differences, as well as some of the similarities between writing in academic and non-academic settings. If further research confirms our findings, we can conclude that there is a great deal that schools could learn from work settings about the nature and purposes of writing. In addition to descriptive studies, we need experimental studies to test programs designed to apply the findings about non-academic writing to school settings. We might ask, for instance, if classroom contexts designed following our suggestions will cause writers to perceive a distinct, immediate audience for their writing and a purpose for it congruent with their perception of the larger purpose of a given course.

While it is clear that further research remains to be done, into the nature of both non-academic and school-sponsored writing, we hope that our findings provide the basis for further research and that the research procedures we have designed expand the repertoire of procedures available for these studies.

II

Exploring Writers' Tacit Knowledge: Research Procedure and Rationale

According to Michael Polanyi (1975), much of our knowledge is personal and tacit. We acquire this knowledge not so much by memorizing rules or reading textbook explanations as by repeatedly engaging in a given activity or, in Polanyi's terms, "dwelling in" a particular action. For example, we develop our skill as writers not by studying rules, but by continually writing. Further, it is likely that we will not consciously formulate much of this knowledge as a set of premises or maxims but will instead internalize it an inexplicit functional knowledge which we will use and expand on each time we write. Polanyi argues that this knowledge is characteristic of all activities, whether physical, such as riding a bicycle, or mental, such as solving a difficult chess problem. Polanyi also claims that tacit knowledge exists at a number of levels. Most significantly for our purposes, Polanyi cites the example of oral communication. At the lowest level, we have learned a phonological system (although most of us could not readily explain how it works), and at the highest level, we have learned to become sensitive to rhetorical or interpersonal context; we have inferred from experience how to vary our style of expression according to the purpose we hope to accomplish with the specific audience we are addressing. This knowledge includes our understanding of both the contexts in which we speak and the strategies that are appropriate for a given context.

A number of studies of oral language have confirmed the influence of social context on speech. In a review of research on language acquisition, Cazden (1970) stresses the situational relativity of children's speech and cites research evidence showing the influence of such situation-specific factors as topic, task, and speaker-listener relationship. Labov (1969) cites the influence of these same factors on stylistic shifts, and he asserts that "there are no single-style speakers. . . every speaker will show some variation in phonological and syntactic rules according to the immediate context in which he is speaking." A similar conclusion appears to hold true for writing. Discourse theorists and teachers of composition (Booth, 1963; Gibson, 1969; Kinneavy, 1971) argue that writing does not exist in a vacuum, that a writer's purpose and knowledge of audience and subject shape the stylistic and substantive choices the writer makes. This point of view receives some support from several recent studies which show that certain groups of writers vary syntax according to the rhetorical context, the audience and purpose for which they are writing (Crowhurst and Piche, 1979; Rubin and Piche, 1979).

By studying the ways rhetorical context influences writing, researchers have begun to confirm assumptions which are widely held but which have not been subjected to careful testing. Moreover, results of these studies help justify pedagogical and evaluative practices recommended by (Moffett, 1968; 1981; Lloyd-Jones, 1977), and others. However, studies of written language are limited in two respects. For one thing, composition researchers have carried out their work in classroom or experimental settings. With few exceptions (e.g., Scribner and Cole, 1978; Scollon and Scollon, 1979; Anderson, Teale and Estrada, 1980), researchers have not studied the writing people do as a part of their daily lives in non-academic settings. Moreover, few researchers have attempted to understand the tacit personal knowledge writers bring to bear on their writing tasks. Thus, existing research tells us, for example, that the syntax of student writing addressed to a teacher may differ from the syntax of student writing addressed to a close friend. But this research is not likely to help us understand the tacit knowledge writers brought to bear on these tasks. We cannot determine what assumptions writers made or what background knowledge they had concerning the audience, the topic, and the strategies that might be appropriate for achieving their assigned purpose with a given audience.

These limitations seem important. We know (Van Dyck, 1980; Goswami, 1978) that some workers in non-academic settings frequently have to write for diverse audiences and purposes. We have reason to think (Knoblauch, 1980; Odell and Goswami, 1981) that some of these workers possess detailed, useful information concerning the occupational and rhetorical context for their writing. We believe that much of this information may be tacit knowledge. That is, having derived it through repeated experience, writers can use it without having to formulate it consciously each time they write. We also believe that this knoweldge may be of interest to both theorists and teachers. Consequently, we want to raise a methodological question that will occupy the rest of this article. How can researchers get at the tacit knowledge of people who write in non-academic settings? What methodology will enable writers to make explicit the knowledge or strategies that, previously, may have been only implicit?

Our answer to these questions is illustrated in the following letter from a business executive to a sales representative. This letter, part of a larger sample collected from the executive, has been modified so that at five points it indicates both the original text and an alternative the writer might have chosen. In three of these instances (Numbers 1, 4, and 5) the writer was asked to consider using an alternative form for each of the following: addressing his reader (#1); asking the reader to perform an action (#4); and referring to himself (#5). At two other points, the writer was asked to consider deleting an introductory, context-setting statement (bracketed passage at #2), and a passage that elaborates on a general term (bracketed passage at #4). In all five instances, the alternatives were, in fact, reflected in some other piece of his work-related writing. To elicit information about the writer's tacit knowledge about the rhetorical context for the letter, an interviewer asked, in effect, two basic questions: Here you do X. In other pieces of writing, you do Y or Z. In this passage, would you be willing to do Y or Z rather than X? What basis do you have for preferring one alternative to the other?

27 September 1979

Mr. Ronald R. Bunch
Marketing Corporation
100 Southward Island
Clearwater, Florida 33500

Subject: SALES REPRESENTATIVE CONTRACT

1. Dear Ron:
Dear Mr. Bunch:

2. [Pursuant to our conversation over the past few months and in line with our needs and desire for professional sales coverage in Florida], I am happy to report that you have been chosen to represent the PDS portion of the Acme Amalgamated product line.

3. As a result, I have enclosed two copies of our sales representative agreement covering PDS products. [This agreement has an 11/1/79 effective date and you will receive 5% commission on the listed products for all invoices dated 11/1/79 and beyond. This, of course, includes all new orders received on or after this date plus all orders presented in house.]

4. [Please sign . . .
You must sign . . .
It is imperative that you sign . . .]

both copies of this contract and return one to us for our records.

Ron, it is indeed a pleasure to have you as part of our sales team, and I am excited about the prospects for the future.

5. I am looking forward to . . .
We are looking forward to . . .
Amalgamated Products is looking forward to . . .

a long and mutually beneficial relationship.

If there should be any questions in this matter, please call me.

Sincerely yours,

J. F. Moon
Product Manager

JFM/d
Enclosure

When asked about the first alternative, the form used in addressing his reader, the writer was not willing to use Mr. Bunch rather than Dear Ron:

> [Mr. Bunch] is a possible alternative but I was trying to establish with "Dear Ron" that I've talked to him a number of times and I feel that we're on some sort of a personal basis and that's what I was trying to establish. It's a business letter but I didn't want to make it so stiff.

The writer also declined to omit the context-setting phrase "Pursuant to our conversations over the past few months . . ."

> I do want to get the point in about the fact that we've talked about this a couple of times in the past. He was, quite frankly, chasing the daylights out of me to get this account. We've been talking on and off and it's been generally at his initiative and now that we've made a positive decision I want to recall that to him, if you will, in such a subtle way as to further make him do the job.

In these two excerpts from his interview, the writer gives us information about his actual and his desired relationship with Ron Bunch. He reveals that he has had frequent personal contacts with Ron Bunch, contacts which Bunch had initiated. His comments also suggest he is trying to maintain a rather delicate relationship with his reader. The writer wants to avoid the formality that characterizes some employer-employee relationships, yet he retains the rather authoritative role of someone who is responsible for seeing that another carries out a job as effectively as possible. Furthermore, the writer's comments imply at least two rhetorical strategies. The first is commonplace enough: the writer uses the reader's first name so as to establish or confirm a personal relationship and to create a tone that is not too "stiff." The second strategy seems somewhat less obvious. The writer subtly reminds the reader of his previous expressions of interest so as to enhance the reader's motivation.

In discussing alternatives found in paragraphs three and four, the writer expresses his sense of what he may and may not assume to be true of his reader. He is unwilling to delete the details about the sales agreement (#3) in part because he cannot be sure about his reader's prior experience:

> I want it understood up front what we are going to pay commissions for, and when we are going to start paying the commissions. The important part of any relationship is the beginning. And I don't want anything inferred or assumed. I want the facts clearly stated . . . . [This arrangement] may be different from what he's been accustomed to in the past.

Yet in discussing ways to phrase a request (#4), the writer assumes that he and his reader share a certain amount of common knowledge. He refuses to accept the alternative, "It is imperative," because he believes that the reader will recognize the importance of the request the writer is making.

> Obviously it is imperative that he sign both copies but I don't think I would choose that particular type of phrasing for it. We're dealing with a professional sales representative and we're supposed to be professionals; it's implied that both copies have to be signed before it's valid. "Imperative" would seem like too strong a word in this particular context . . .

A moment later in his interview, the writer reveals a strategy for evaluating an alternative, a strategy that entails asking himself how he would react to a given phrase in a particular context:

> If I heard that "it is imperative that you sign" something that obviously is going to be done, my response would be nervousness, or some other thought.

In commenting on the fifth alternative (the form he will use in referring to himself), the writer seems, at first, to be guided only by a simple stylistic rule:

> You should basically stay away from too much of "I, I, I" in a business type of letter. That's a mistake.

Yet he immediately goes on to relate his preference for "_We_ are looking forward . . ." to his sense of his relationship to his company and his reader. The writer points out that using _I_ in this context implies that the reader is "dealing one-to-one with me as opposed to me as a representative of Amalgamated Products as a whole. He understands perfectly well what's going on here, but [using I] is a little bit presumptuous on my part."

We cannot, of course, argue that the business executive consciously considered the relationship between himself, his company, and the reader while he was actually writing his letter. Although we did not observe the executive's composing process, we would expect that several of the alternatives mentioned previously were chosen with little or no apparent deliberation. Indeed, since the executive was an experienced writer and this was not a terribly unusual task, we assume that the task of writing this letter was eased somewhat by knowledge the writer may not have explicitly formulated while writing the letter, knowledge about the subject, the audience, the strategies that were most likely to prove effective.

Information about this knowledge is interesting, in part, because it may help us test discourse theorists' claims about ways in which considerations of audience and purpose are important for writers. Furthermore, this information has practical implications. For example, the "Ron Bunch" letter and interview transcripts are from a study conducted by David Lauerman and his colleagues at Canisius College in Buffalo, New York. As part of their effort to design an advanced composition course for students in business, Lauerman and his colleagues have collected an extensive writing sample from executives in several different businesses and have interviewed these executives using the procedures we have described. As a result of this work, Lauerman is able to create writing tasks that actually reflect some of the rhetorical demands students will encounter in their careers. Further, interview materials from the study frequently serve as a basis for class discussion. For example, students are frequently given a piece of writing comparable to the Ron Bunch letter. Students are asked to decide which alternatives seem most appropriate to them and then compare their choices and reasoning with those of the original writer.

To summarize our argument thus far: Our interview procedure can be used with writers in diverse settings, writers whose ability may vary widely. Interviews with these writers enable them to tell us about the tacit knowledge they bring to writing tasks they encounter every day. Information about this knowledge is of interest to both theorists and teachers.

This series of claims raises a number of questions:

How does one justify studying the writing people do routinely? Wouldn't we elicit more information if we designed more challenging experimental tasks that would tax their composing skills more severely than a routine task?

How valid is interview data? Can we have any confidence in the observations writers make well after a given piece of writing has been completed?

Why should researchers, rather than writers, determine what features of a text are discussed in an interview?

How significant are the features we have selected for writers to comment on?

How does our research methodology relate to the "Compose Aloud" procedure used by several other researchers?

Routine or Experimental Tasks

Because they are interested in studying writers' underlying composing processes, writing researchers such as Flower and Hayes (1980), have made extensive use of experimental tasks which are designed to pose unique and unexpected demands for a writer. Their rationale is that to do such tasks writers would have to draw on their full repertoire of composing strategies and not rely on "stored problem representations" which they have developed for routine tasks. Because such experimental tasks are designed to avoid familiar, natural contexts, they are not suitable for our purpose, which is to probe a worker's store of knowledge of the rhetorical context for writing done on the job. Consider, for example, an experimental task such as "Write about abortion, pro and con, for Children's Digest, read by 10 to 12 year-olds." This task might elicit information about specific strategies a social services administrator would use to solve unique tasks for which she has no context and perhaps information about global strategies she uses. But it would not elicit information about the contextual knowledge that shapes that administrator's writing on the job or about how global strategies are combined with task and context-specific knowledge to compose a particular piece.

Reliability of Interview Data

In reviewing widely-reported techniques for studying writing, Atlas (1979) concluded that the validity of interviews "depends heavily on the accuracy of the subjects' self knowledge; for this reason, interview data is probably best treated as weak evidence, suggestive but not conclusive." Our response to this criticism depends on the use to which an interview is being put. If a researcher is using an interview to determine what went on while a writer was engaged in the process of composing, we agree with Atlas. When experience is transferred from short-term memory to long-term memory, we assume that it is simplified and re-structured;

it seems unlikely that long-term memory can retain the full complexity of mental activity attendant upon the moment-by-moment process of composing. Further, we agree with Polanyi that some tacit knowledge is so internalized that it becomes unconscious and inaccessible. However, we are not using interviews to obtain information about mental processes. We are using interviews to identify the kinds of world knowledge and expectations that informants bring to writing tasks and to discover the perceptions informants have about the conceptual demands that functional, interactive writing tasks make on them. Research on verbal reports as data confirms that informants can report reliably on such socially-learned information, which has been tacitly transformed into functional plans they apply when writing (Smith and Miller, 1978).

Later in this paper, we shall argue that our interviewing procedures are particularly well-suited for eliciting this sort of information. But the validity of this information is subject to at least two other criticisms. It may be that an interviewer will bias a writer's response by the kinds of questions he or she asks, simply by deciding to ask about one feature of a text rather than some other feature. Further, there is the chance that interviewees will mislead researchers and themselves if only by allowing feelings or preconceptions to influence their statements. There may be no way to satisfy completely the first of these criticisms. The very act of observing any phenomenon may alter that phenomenon. However, we have devised interview procedures that will help an interviewer be as non-directive as possible (Odell and Goswami, 1981). Furthermore, we are inclined to trust interviewees' statements. For one thing, interviewees rarely respond to our questions with abstract precepts about "good writing." Instead, they usually talk very specifically about the interpersonal and occupational context in which their writing exists. It may be that any single one of these statements is suspect, that at any given moment an interviewee may mislead him/herself or the researcher. But we have some evidence that interviewees' statements seem to vary according to the type of job they hold. In the statements of workers in one group we find patterns that differ from patterns in statements by workers in another group. This blend of consistency within groups and variations between groups leads us to believe that interviewees' responses are not simply an individual writer's whim or misperception.

Selection of Topics for Interviews

As we have already noted, our interview procedures require the researcher rather than the writer to decide which feature of the text will be discussed. We know, of course, that a finished, edited text gives no clue as to what parts of the text required extensive deliberation and what parts were written quickly with little conscious effort. Consequently, it is quite possible that the interviewer will fail to ask the writer about matters that occupied large parts of the composing process. This possibility raises two further suggestions: perhaps the writer should identify at least some of the matters to be discussed in the interview; perhaps the interview should not be based solely on the finished text. In response to the first speculation, we must point out that we are interested in knowledge that may not be consciously learned or applied. If this knowledge is not at the front of a writer's consciousness while composing, it seems unreasonable to expect the writer to identify points at which he or she has relied upon that knowledge. As to the second suggestion, we agree that there may be times when observation of a writer's composing process can enable a researcher to ask questions about, for example, points at which a writer made and crossed out several false starts (see below, pp. 32-33). Or it might be possible to base an interview on the revisions a writer makes in successive drafts of a piece of writing (see Cooper and Odell, 1976). Yet these strategies may tell us only part of what we want to know. In so far as, say, revision entails tacit knowledge, we might profit from interviewing writers about their revising. But this knowledge is almost certainly functioning when a writer does not have to stop, deliberate, and revise. Indeed, we believe that the transformation of contextual knowledge into tacit plans is what enables large parts of the composing process to proceed with little conscious effort; tacit knowledge is not limited to those parts of a text that require revision.

This last assertion raises a series of questions. If many parts of a text may have allowed a writer to use his or her tacit knowledge, how shall researchers decide what parts of a text they shall ask questions about? How can researchers be sure they are not ignoring important parts of a text? What basis does one have for assuming that a given feature of the text is significant?

Significance of Topics Selected

In trying to decide what parts of a text we would ask writers to comment on, we made several assumptions. The first was that writers, like speakers, are not "univocal," that writers are capable of varying the language, syntax, and content of their writing. Consequently, we gathered samples of writings done by each person we interviewed, materials representing the full range of written tasks that that person typically did as part of his or her job. We examined these writing samples, looking for variations, trying to identify the alternatives that were part of each writer's repertoire. Our next assumption was that many of these alternatives might have been chosen with little or no conscious deliberation, that a particular locution or bit of information may have seemed so routine or so uniquely appropriate that a writer might not recognize it as a choice. Finally, we assumed that if we asked writers to consider alternatives (alternatives that were evident in other materials he or she had written) we might create a cognitive dissonance that would enable a writer to become conscious of the tacit knowledge that justified the use of a particular alternative.

Having identified alternatives to discuss with writers, we still cannot provide a completely satisfactory answer to the second question we raised earlier; we must acknowledge that there may be other features of a text that will provide as much information as, or perhaps more information than, those features we have chosen. As soon as researchers direct their attention in one direction, they blind themselves, at least temporarily, to information that might be available if they were to look in another direction. But we can mitigate this problem if we ask writers about a variety of features in a given set of texts and if we are willing to ask about different kinds of features when we are dealing with different sorts of texts. For example, in a study of writing in a welfare agency, Odell and Goswami (1981) interviewed administrators about their letters and memos, texts which involved many of the same alternatives as were illustrated earlier in this article by the letter to "Ron Bunch." However, caseworkers in the welfare agency rarely wrote letters and memos; instead, they were most likely to write reports of their meeting with clients. In interviewing caseworkers about these reports, it was necessary to consider a different set of alternatives. In place of asking about, say the form used in addressing a reader or the way they signed their name to a letter or memo, the researchers asked about such decisions as these: whether to refer to a client informally (by just using his or her first name), formally (by using Mr., Mrs., or Ms.), or impersonally (by referring to the client as client); whether to include/exclude information about the caseworker's actions during a meeting with a client; whether or not to refer to the client's actions.

On the face of it, some of the alternatives discussed in our interviews seem rather insignificant. For example, in our interviews based on letters and memos, we have asked writers about the way they signed their name. We assume that writers may spend very little time trying to decide whether they should use, say, their full name or just their first name. Yet questions about an apparently simple matter such as this can provide a great deal of information. When we read a collection of one administrator's writings, we noticed that she had several different ways of signing her name: M. Smith, Margaret Smith, Meg Smith, and Meg. In one of our interviews we asked her if she would be willing to sign her name on a particular letter as Margaret or Meg Smith rather than M. Smith. Here is an excerpt from her reply:

> This [letter] is going to a permanent file. I am looking to the years to come. Someone coming back . . . . It makes no difference whether I am male or female making this decision. [What matters is that] I am a grade A supervisor. They have to know where he is placed and who evaluated him. But I don't use Margaret Smith for this reason: I want to be neuter.

In commenting on the way she signed a memo, the administrator remarked that she preferred the signature Margaret Smith (rather than M. Smith) because " . . . this is not a formal little note . . . I'm sharing some information so I put Margaret. I use that M when I don't want the reader to know whether I'm male or female." In yet another interview, this writer noted that it was unusual for a woman to hold a high administrative post in the agency where she worked, and she remarked that she sometimes felt her writing carried more weight when a reader did not know whether the writer was male or female. Thus, our inquiry into an apparently simple matter elicited a great deal of information about the writer's understanding of her status in the agency and about one of her strategies for accomplishing her work.

We want to make a similar claim for the other alternatives used in interviews with workers in the welfare agency. All of these alternatives elicited information about writers' knowledge of the rhetorical and occupational context for their writing. Further, writers' comments about these alternatives reflected writers' knowledge of ways to vary style and substance to achieve particular effects. For example, the Ron Bunch interview, cited previously, illustrates that questions about form of address (1), form of command/request (4), and form of reference to self (5) elicit information about the professional context, acceptable conventions within that context, and the writer's knowledge of how to establish a desired writer-reader relationship. In short, while an isolated feature such as form of address or elaboration may seem insignificant, it is a sensitive indicator of the writer's complex understanding of the rhetorical context and ways to achieve one's purpose within that context.

Composing Aloud

In several reports, Hayes and Flower have shown the usefulness of asking writers to compose aloud, to verbalize the thoughts and feelings that accompany their efforts to complete a piece of writing. Although composing aloud was not used in the study of writers in a welfare agency (cited above), we realize that this procedure has enabled some writers to comment on the rhetorical context for their writing (Flower and Hayes, 1980). Consequently, we asked four welfare workers (two administrators and two caseworkers, all of whom participated in the study by Odell and Goswami), to do some composing aloud. One administrator did two composing aloud tasks. Each of the other participants did four such tasks. As we analyzed their work on these tasks, we gained some understanding of both the uses and limitations of the composing aloud technique. One argument for the composing aloud methodology is that it can be an excellent way to get at the generating, planning, and organizing activities that make up a large part of a writer's composing process. Certainly, moreover, this procedure sometimes can give a good record of what James Britton has called "shaping at the point of utterance." In some of the composing aloud protocols we have collected, we can observe a writer reflecting on the accuracy of a particular phrase, or debating the wisdom of including a given bit of information. Here, for example, is a transcript of a case worker composing aloud while writing a report of her visit with a child in a foster home:

WRITES	I found him watching his shows on television. He is a delightful 5 year old child with blond . . .
INTERRUPTS/SPEAKS	Not, it's not blond, it's sort of dirty blond. Well, let's see . . .
WRITES	He is a delightful five year old child. Long lashes, cute, tall slender . . .
SPEAKS	That's what I wrote about him. Tall and slender.
WRITES	He is a delightful five year old with long [eye] lashes . . .
SPEAKS	and very intellectual looking?
WRITES	intellectual looking in his corrective lenses, in his glasses.
READS	He is a delightful five year old with long lashes and very intellectual looking in his glasses.
SPEAKS	That doesn't sound right. No, cross all that out.
WRITES	He is a delightful five year old.

Another example of composing aloud comes from a protocol in which an administrator was writing a memo to advise lower level supervisors that their workers were not following the correct procedure for filling out a particular form. The draft this administrator wrote during her composing aloud session began with a request:

> Please advise all workers that Form 189-B . . . is somewhat confusing to workers. This form should be used only when . . .

Apparently this request was very important to the administrator. She revised it considerably for her final draft. And almost half of the comments in her protocol concern this request. While she was writing this request, she made the following comments, over a period of several minutes:

> No, ah, let's see. How do we word this one so that they don't get uptight? Can't demand, can't ask, just . . . Ah, let's see. Do we advise them of the incorrect usage? Ah, oh dear. WRITES: "Please remind . . ." Oh, Lord, how to be tactful? Let's see, what do I want to do? I want to tell them that they . . . why they use form 189-B and that they're doing it wrong.

In these comments, the administrator mentions concerns that also appear in the interviews we had conducted over a year earlier: How are my readers likely to react to what I am going to say? How can I create a persona that will cause as little undue stress as possible?

Our first example of composing aloud suggests that this procedure elicits certain types of information that cannot be obtained through the interview procedure we have described. The second example suggests that, for some writers, composing aloud elicits some of the same types of comments we encountered in our interviews. Having acknowledged these values of the composing aloud procedure, we want to suggest some of its limitations. The most obvious limitation is that not everyone feels comfortable composing aloud. In a previous study, Cooper and Odell (1976) tried to get professional writers to compose aloud. Of the eight writers involved, only one gave a detailed report of the thoughts, feelings, and questions that attended his effort to write a draft. Most of the other writers simply read aloud the words they wrote on the page, responding briefly or not at all to our requests to "tell us what you are thinking as you write." With workers in the department of social services, results were somewhat more encouraging. All four provided at least some useful information while composing aloud in response to this request: write a description of your job for readers of Seventeen magazine. But when asked to compose aloud while doing her normal day-to-day writing tasks, one writer did nothing more than write and read aloud as she wrote. As we have already noted, other writers provided somewhat more information. But when compared to their comments on their reasons for choosing one alternative in preference to another, this information seems relatively limited. Consider the writing of the administrator who was writing the memo about the correct use of form 189-B. When we examined a collection of her memos and letters, we realized that her writings were likely to vary in several ways:

> the way she addressed her reader;
>
> whether she included introductory, context-setting material at the beginning of her writing;
>
> the way she referred to herself;
>
> whether she shifted level of abstraction to elaborate on a given statement;
>
> the way she phrased a command or a request;
>
> whether she concluded a memo or letter with a phrase inviting further communication (e.g., If you have any questions . . .");
>
> the way she signed her name.

In her composing aloud protocol, this writer commented on one of these variations--the way she wanted to phrase a request. And her comments, as we have noted, touch on issues that also appear in her interviews. However, during her composing aloud, she makes no comment at all on other types of choices, listed above, even though our interviews lead us to believe that these choices are not trivial to her. This administrator was the person, cited earlier, who had very definite notions about the usefulness of signing her name M. Smith, Margaret Smith, or Meg. Interestingly, the memo about form 189-B was signed M. Smith. Yet the composing aloud protocol did not contain any reference to a matter that, as we have seen, is quite important to this writer. It seems, then, that this writer has constructed, through experience, a plan based on quite complex knowledge of possible reader biases. Once that plan has been formulated, the writer need not reconstruct it for each writing, and thus need not attend to it or verbalize it. That a decision of this sort may not be made consciously for each piece does not diminish its importance, but it does suggest why it will not likely be revealed in a compose aloud protocol, which is more suitable for eliciting information about global processes, not about the specific knowledge and plans applied to familiar tasks.

We cannot make too much of this one omission from one composing aloud session. Yet the problem we have described consistently occurs in the composing aloud of the two caseworkers. From each of these caseworkers we have three transcripts of their composing aloud while writing reports of their meetings with clients. None of these protocols contains any comment on types of choices that appear in the writing of every worker in their unit. Given this fact, one might wonder whether these choices are, in fact, as important as we have suggested. After all, if a choice were really important, wouldn't a writer comment on it during the composing aloud process? We agree, of course, that points mentioned when a writer composes aloud are worth our attention. When a writer deliberates over, say, a phrase, it seems reasonable to assume that the phrase may represent a significant rhetorical decision. But it does not seem reasonable to assume that composing aloud will enable a writer to comment on all the important choices he or she must make. As we know, the composing process is very complex; in writing a sentence, a writer has to decide upon a number of matters, ranging from the syntactic form in which a proposition may be cast, to the appropriateness of expressing that proposition to the intended audience. Given this range of decisions, many of which must be made almost simultaneously, and given the limitations of short-term memory, it is surely inevitable that a written text will entail significant decisions that cannot be remarked upon when one composes aloud.

In suggesting that compose aloud protocols might omit important information, we raise a criticism that may be made of any research methodology, ours included. It is unlikely that a single methodology--in effect, a single perspective--will ever tell us all we need to know. Consequently, we think researchers should look for ways several existing methodologies might be brought to bear on the same topic. For example, we think compose aloud protocols might complement the information derived from our interviews. Compose aloud protocols may be useful, for instance, in differentiating between what experienced versus inexperienced workers consciously attend to when they write. We speculate that inexperienced workers, because they do not yet have the same knowledge of the rhetorical context and the way to manipulate language to achieve their purposes within that context, would have to devote more attention to constructing that knowledge when they write each piece. The compose aloud protocols should reflect this difference and also provide information about how inexperienced workers build that knowledge. Compose aloud protocols might also be a source of information about the strategies a writer uses to solve the unique problem presented by each writing task, more specifically the way context-specific knowledge is combined with more global writing strategies to solve these problems. Such information about what writers know and how they use this knowledge, information derived from discourse-based interviews and compose aloud protocols could serve as a useful heuristic, particularly for inexperienced workers.

In suggesting one way research strategies might complement each other, we are making this assumption: Researchers in our field need a repertoire of research strategies, a repertoire that includes interviews, composing aloud, analyses of written products, videotaping writers while they are writing. Our goal in this article is to add to that repertoire.

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III

Writing in a Non-Academic Setting

Researchers who study spoken language have a tradition of conducting naturalistic inquiries (Giglioli, 1972; Bauman and Sherzer, 1974); they examine speech as it occurs spontaneously in the context of day-to-day activities. They have shown (Cazden, 1970; Labov, 1969) how oral language is influenced by speakers' awareness of the nature of their communication task and by their sense of their relationship to their audience. At least one researcher in this area (Basso, 1974) has suggested that written language should also be studied in a range of "sociocultural settings."

Some researchers (e.g., Scribner and Cole, 1978) have begun to conduct this sort of inquiry. But for the most part, research in composition has been done in academic settings where the writing task is assigned by a teacher or researcher in order to accomplish a pedagogical goal or provide data to answer a research question. Research done under these circumstances has provided valuable information about the composing process (Flower and Hayes, 1980; Perl, 1979; Matsuhashi, 1979) and about the features of written products (Rubin and Piche, 1979; Crowhurst and Piche, 1979). Since this information not only has implications for teaching writing but also provides an important test of assumptions from discourse theory, we think researchers should continue to explore writing done in these settings. Yet we also feel that researchers need to examine writing that is not assigned by a teacher or researcher and that has a purpose beyond improving writing skill or generating research data. More specifically, we feel that researchers need to examine writing done in non-academic settings, especially the writing adults do as a regular part of their daily work.

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We have several reasons for our point of view. Although we are beginning to realize that adults may have to do a great deal of non-published writing as part of their day-to-day work (Goswami, 1978; Van Dyck, 1980), we know relatively little about the nature and functions of this writing. Indeed, we tend to speak of business writing (or government writing or bureaucratic writing) as though it were a single entity. We have limited information about the variety of tasks adult, non-professional writers must perform and still less information about the types of stylistic and substantive choices writers make or the reasons that govern a writer's choosing one alternative in preference to another. This lack seems rather serious since information about these tasks, choices, and reasoning might very well influence the teaching of composition. Furthermore, this sort of information provides a basis for testing theoretical assumptions, a basis that is quite different from that provided by school-sponsored writing.

Even in asserting this difference, we acknowledge apparent similarities between school-sponsored writing and writing that is done in non-academic contexts. In both cases, the writer may seek the approval of a person (teacher or supervisor) who may not be the ostensible audience for the writing but whose good opinion is important to the writer. Yet these two types of approval are different in at least one respect: the approval of one's supervisor can have immediate economic as well as personal consequences. One's evaluation as a worker and, consequently one's raises, promotions, even continued employment may be influenced by the supervisor's approval or disapproval. A teacher's evaluation of a given piece of writing may also have economic consequences, but those consequences are usually quite remote. Further, the consequences of non-academic writing go well beyond gaining approval or disapproval. If the writer is careless, he or she may not accomplish a substantive, job-related goal. A reader may act or think in a way that will complicate the writer's job and perhaps the reader's as well.

Another apparent similarity is that both non-academic writing and, increasingly, school-sponsored writing may be intended for a specific audience and purpose. However, it is relatively unlikely that the school-sponsored writing will actually reach the intended audience. As a rule, it will be read by a teacher or researcher, a person who may not expect to learn something he or she does not already know or to have his/her feelings, thoughts, or actions influenced by the substance of the writing. In short, we feel that the consequences and contexts for non-academic writings are substantially different from those of school-sponsored writing, a difference that justifies our careful inquiry.

This present study, part of a larger study of writing done in various non-academic contexts, focuses on writing done in a government bureaucracy, a county social-services agency. In size and function, this agency seems typical of agencies that might be found in a great many counties and, at least so far as government bureaucracies are concerned, allows us to begin to answer these questions:

> To what extent are non-academic writers sensitive to rhetorical issues such as their relation to their audience or the ethos conveyed in their writing?

> Assuming researchers can identify points at which writers have made a choice about style or substance, what reasons do writers use in justifying those choices?
>
> > Do their reasons reflect a sensitivity to, say, audience, or do those reasons suggest writers are following pedagogical instructions (e.g., "Never use I") without regard to the specific situation they are confronting?
>
> When writers in non-academic settings address different audiences or try to accomplish different purposes, are they likely to vary syntax or other linguistic features of their writing?
>
> When writers make judgments about style, does their sense of what is acceptable vary according to the type of writing (and, implicitly, the audience and purpose) they are examining?

Within a given institution, does writing vary from one group of writers to another? Assuming researchers could identify workers who 1) were considered typical, competent workers; 2) did comparable types of writing; 3) worked in offices which had quite different functions within a given institution, would one find that the two groups differed with respect to:

> The types of reasons they used in justifying their choices?
>
> The linguistic features that appeared in their writing?
>
> Their sense of what constitutes acceptable style?

Procedures

Data Collection

Participants. There were eleven participants in our study, five administrators and six caseworkers. Clearly, these participants do not represent all aspects of the agency. They do, however, have a range of responsibilities which assures us that results of our study do not apply exclusively to a single unit of the agency.

Essential to our selection of participants were two key informants, administrators who were thoroughly familiar with all aspects of the agency and with agency personnel.[2] We asked these key informants to identify approximately thirty experienced, competent workers from several agency departments and at various levels of the agency hierarchy. Although we did ask the informants to select workers whose jobs were likely to involve a good bit of writing, we did not ask them to make judgments about workers' writing ability.

Having identified prospective participants, we conducted a series of initial interviews at which we asked each worker about the amount of writing, the types of writing, and the importance of writing in his or her job. Almost all of these workers indicated an interest in taking part in our study, but the demands of workers' schedules and the complex, time-consuming nature of our research procedures made it necessary to reduce the number of participants to eleven.

Data Gathering Interviews. After the initial interview, each participant was interviewed on two additional occasions. At least two months elapsed between the first of these data-gathering interviews and the second. The purpose of these interviews was to elicit information about workers' reasons for preferring specific choices in their writing. This information will allow us to answer two questions: When workers justify a stylistic or substantive choice in their writing, do their reasons indicate that the worker is sensitive to rhetorical considerations such as a writer's relation to his or her audience? Are workers who have different types of jobs likely to have different types of reasons for the choices they make?

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[2] We are very grateful to Ronald J. Kerwin and Judith B. Marks, whose advice and assistance at all stages of our study made our task much easier.

Prior to a data-gathering interview, we asked each worker to keep copies of all the writing he or she did during a two-week period. After collecting the writing from the worker, we proceeded as follows. First we tried to identify points at which the writer appeared to have made a stylistic or substantive choice. To do this, we looked for variations that actually appeared in the writing of each worker. We did not want participants to look upon us as English teachers and, therefore, as authorities on style. Consequently, we deliberately ignored variations (e.g., in syntax or level of diction) that we felt participants might associate with English classrooms.

In the letters and memos[3] of all the administrators, we identified the following types of choices, many of which involve both matters of substance and style.

1. Form used in addressing the reader of a letter or memo.

   In some situations the reader might be addressed as Dear Mr. Smith, in others as Dear Bob or Dear Sir;

2. Decision to include or exclude introductory, context-setting information.

   In some instances, administrators might begin with a phrase such as "As you will remember from our conversation of last Friday, we have agreed to do X...."; in other situations administrators would omit such introductory material.

---

[3] Although administrators occasionally wrote expository pieces that were labeled Report, most of their writing took the form of letters and memos, some of which were, in effect, reports.

3. Form of reference to self.

   Sometimes administrators would use the pronoun I; in other pieces of writing, they would use the pronoun we or an expletive-passive construction, even though a sentence referred to what "I" had done or thought.

4. Form used for commands or requests.

   Sometimes an administrator might say "You must do X"; in other situations the same writer might say "It is imperative that you do X" or "State Law requires that you do X."

5. Decision to include or exclude elaboration.

   In some instances, writers would shift level of abstraction or follow a general statement with a passage beginning "in other words...." In other letters and memos, the writer would not shift level of abstraction even though his or her comments to an interviewer would indicate that the writer possessed the information needed to elaborate on a general statement.

6. Decision to include or exclude a concluding comment inviting further communication.

   Some letters and memos concluded with this sort of invitation: "If you have any questions, please feel free to contact me." In other situations, this sort of statement would be omitted--rather pointedly, it sometimes seemed.

Though caseworkers occasionally wrote letters or memos, they were most likely to write reports of their contacts with clients or prospective clients. In these reports, we identified the following types of choices:

1. Attribution of information

   In some reports a caseworker might say "Mr. Smith says (our emphasis) his rent is ...."; in other reports a caseworker might say "Mr. Smith's rent is....";

2. Decision to include or exclude reference to the writer's words or actions;

3. Decision to include or exclude reference to the client's or applicant's words or actions;

4. Form of reference to self.

   In some instances, a caseworker might refer to him- or herself as worker and in other instances as I.

5. Form of reference to the client.

   In some instances the caseworker might refer to the client as client and in other instances as Mr. Smith or Joe.

Having identified types of choices in the writing of each caseworker and each administrator, we prepared interview sheets based on writing we had collected from these participants. To prepare an interview sheet for a given piece of writing, we would identify from four to six choices. On the interview sheet we would list the choice that actually appeared in the piece of writing at hand. Underneath that choice, we would list one or two roughly comparable alternatives that appeared in other pieces of writing done by the worker we were interviewing. At the interview, we would ask each worker to re-read a given piece of writing and would show the writer the interview sheet we had prepared. To reduce anxiety that might arise from being interviewed about one's writing by an English teacher, we repeatedly assured participants:

1) that all the options listed on the interview sheet were equally "correct";

2) that we felt that the interviewee was the expert on making appropriate choices in writing for the agency where he or she worked;

3) that we were interested solely in the reasoning that led the writer to prefer one alternative to another.

We would begin the discussion of choices by saying: "Here you chose to do X. It would also be possible to do Y or Z (the options listed on the interview sheet). Would you be willing to substitute Y or Z for your original choice?" When the choice entailed a decision to include to exclude a particular statement, we would proceed as follows. If the statement were present, we would simply bracket it and ask if the writer would be willing to omit it. If there were no statement, we would ask the writer to provide additional information and then ask the writer if he or she would be willing to include that information in the letter or memo.

Early in the interviewing process we became concerned that the form of our questions, even our tone of voice, might influence a worker's response. It is, for example, surprisingly easy to say "why didn't you do Y rather than X?" in a tone of voice that implies that Y is the only acceptable alternative. There is also a danger of paraphrasing a worker's comments in such a way that they fit neatly with the interviewer's expectations: "Oh, so what you're saying is that you were very concerned with your audience at this point."

Inevitably, of course, the very presence of an observer has some influence on the phenomena being observed. But we tried to establish procedures that did not imply our values and that let us make our interviews as non-directive as possible. After a worker responded to our initial quesion "Would you be willing...." it was not unusual for the worker to pause. Our first response to this was to remain silent for a few seconds and allow the worker to elaborate. If no elaboration was forthcoming after a brief pause, we would begin a sentence with the words "So what you're saying here is..." and then pause, allowing the worker time to complete our sentence. If the worker did not do so, we would either say "I'm not sure I understand" or ask the worker "Could you elaborate?" or paraphrase the worker's comment as closely as possible and give the worker a chance to modify our statement. When a worker used an unelaborated value term (e.g., "It seemed important to do X rather than Y"), we would attempt to get the worker to clarify the term (e.g., we might say "How do you mean important?" or "Important in that ...." and allow the worker to complete the sentence).

Usually, workers preferred their original choices and explained their preference with little hesitation. Occasionally, however, a worker would say that alternatives Y and Z would be as acceptable as the original choice X. In these cases, we would ask a worker if he or she saw a difference between X and Y or X and Z. Typically, the attempt to explain that difference would lead a worker to express a preference for one alternative and to give reasons for that preference.

Writing Sample. In addition to the writing that served as the basis for our interviews with participants, we collected samples of the types of writing that each worker typically performed on the job. Administrators' writing usually took one of three forms: pink memos, white memos, and letters on agency letterhead. The pink memos were relatively short, informal pieces usually addressed to one or two specific workers in the agency; their purposes might vary, but their content usually concerned the day-to-day workings of the agency. White memos tended to be longer and more formal than pink memos. Usually, white memos were addressed to groups of workers (e.g., "All Caseworkers") and were used to announce and explain basic agency policy or regulations. Letters on agency letterhead appeared to have diverse purposes. Invariably, letters were written to people outside the agency, and pink and white memos were written to workers within the agency.

From each administrator, we collected ten examples of each of the three types of writing. Since each participant in our study indicated that these three types of writing had different purposes and were addressed to different types of audiences, our analysis of these three different types of writing will enable us to answer this question: Do different rhetorical contexts (i.e., different audiences and purposes) prompt writers in our study to vary certain linguistic features (See Data Analysis: Writing Sample, below) of their writing?

Since caseworkers wrote reports much more frequently than they did letters or memos, we examined only caseworkers' report writing. From each caseworker, we collected six complete reports (the reports usually ranging from 10 to 20 T-units in length) of a specific meeting with a client. No more than two of a given caseworker's reports dealt with any one client. No more than two of a writer's reports were written on the same date.

According to our key informants and according to Civil Service job descriptions, three of the caseworkers, members of the Eligibility Unit, were responsible for screening prospective welfare clients. The other three worked with children who had been placed in foster homes. These Foster Care caseworkers were responsible for helping children and their foster parents adapt successfully to their new relationship. Foster Care workers were likely to see foster parents and children several times a month and they expressed strong personal interest in their primary clients, the children. Eligibility caseworkers rarely saw prospective clients more than once, and they reported that their primary responsibility was to obtain factual information from prospective clients. Since these two groups of caseworkers have such different responsibilities and relations with clients (or prospective clients), analysis of their writing should let us answer this question: Within a given institution, is the writing of workers in one job significantly different from that of workers who hold a quite different job?

Judgments about Acceptability of Style. For this part of our study, we selected nine pieces of writing from our writing sample: three pink memos, three white memos, and three letters. All of these were relatively short, and none dealt with personal or controversial matters. Modifying procedures devised by Joseph Williams (1979), we prepared three versions of each of the nine pieces of writing. In one version, the "verbal" draft, all grammatical subjects were rewritten as Agents, and all finite verbs were rewritten as Actions performed by the Agent in the subject slot. The second version was identical to the first except that there were five instances in which an active finite verb had been made passive. The third alternative was identical to the second except that the third alternative draft contained at least three instances in which verbs in the active voice had been nominalized. The three versions of each piece of writing were read by participants, who were asked to rate the alternative drafts as "most acceptable," "less acceptable," and "least acceptable." These ratings will let us answer these questions: Do participants consistently prefer one style of writing (e.g., the nominalized version) to another? Do workers' preferences vary according to the type of writing they are reading? For example, do workers prefer a verbal style in pink memos and a passive or passive-nominal style in the more formal white memos?

Data Coding and Analysis

Interview Transcripts. In trying to categorize the reasons writers gave for their choices, we were guided in part by our reading and re-reading of interview transcripts and in part by assumptions from rhetoric and current theories about the purposes or functions of discourse. Bearing in mind our primary question (Are writers in non-academic settings sensitive to rhetorical issues?), we set up three basic categories: audience-based reasons, writer-based reasons, and subject-based reasons. These categories reflect distinctions made by Gibson (1968) and Kinneavy (1971), and Halliday (1973).[4] We want to emphasize, however, that our terms do not refer to the functions of complete pieces of discourse (cf. Kinneavy, 1971). Rather they refer to types of reasons given to justify several specific choices in any given text. Discussion of a single text -- indeed, even discussion of a single choice -- might elicit more than one type of reason.

Our categories and sub-categories are as follows:

I. Audience-Based Reasons

  A. Status of the audience

  Writer mentions reader's title, office, or place in hierarchy and expressed or implies deference or lack of deference.

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[4] Halliday's notion of interpersonal functions encompasses what we label audience-based and speaker-based decisions; his term ideational functions is comparable to our term subject-based decisions.

> "You're saying to the executive 'You must do this.' And the executive is an important man."

> "No, you're talking to your peers...and I don't think you have to say that."

B. Personal knowledge of or relationship with audience

Writers says, in effect, "I know (or don't know) X audience personally," or, "I have (or have not) had dealings with X audience in the past"; writer may recount an anecdote about past experiences.

> "Well, see, I've called him [by his first name] all my life."

> "We've never had any problems [before]."

C. Personal characteristic of the audience

Writer refers to some personal trait or to the reader's knowledge or lack of knowledge on a given topic

> "He tends to be a bit sensitive, and you have to be careful you don't offend him."

> "Their purpose is not to know why your policy is such-and-such. They just want to know what [the policy] is."

D. Anticipated or desired action on the part of the audience

Writer refers to overt actions or to changes in the audience's feelings or state of knowledge.

> "But supposing I answered yes. And now they [the audience] come back and say 'Oh, we're very pleased with your yes answer. Would you please give us the cases in proof of the yes answer?"

> "So that's the reason for the first paragraph... to let [the reader] know the background, that this is what's happening down here."

II. Writer-Based Reasons

A. Writer's role or position in the organization

The writer mentions him or herself and specifically refers to the scope of his duties.

> "[This is] not within my realm of authority to make--all I can do is recommend."

> "The theme I'm trying to establish is that I am the one who is in charge of this deal."

B. Ethos or attitude the writer wishes to project or avoid

Writer uses a word or phrase that describes his/her attitude, personality, etc.

> "...we sounds...I don't know...too personal."

> "I was trying to strike a somewhat casual note here."

C. Writer's feelings about subject or task at hand

Writer refers to feelings or attitudes which are not conveyed in their writing.

> "When I wrote this I had had a really bad morning."

> "I despise writing these [reports]."

III. Subject-Based Decisions

A. Importance of the topic dealt with in the writing

> "I wouldn't say that because this [subject] is going to entail decisions and logic that are very profound dollarwise."

B. Desire to provide an accurate, complete, non-redundant account

The writer mentions alternatives and discards one as inaccurate or the writer simply asserts that a given piece of information needs to be in the text, without referring to an audience's need for that information.

> "I wouldn't say that. That implies they have a choice, and they don't."

> "I don't want to leave that out because that's what actually happened."

C. Desire to document a conclusion the writer has drawn

> "I guess the point I was trying to make here was that...."

> "I wanted to show that their relationship really was a healthy one."

One might reasonably expect an additional category reflecting writers' sense of the formal demands of a particular type of writing. For example, we can imagine a participant saying, in effect, "when you write a pink memo, there are certain choices you make just because you are writing a pink memo rather than a white memo or letter." Surprisingly, this type of comment did not appear in the transcripts we analyzed. It is quite conceivable, however, that such reasoning might appear in writing done in other non-academic settings and that, consequently, our list of categories might need to be expanded.

Writing Samples. In determining which linguistic features we would consider, we drew upon recent research (Crowhurst, 1979; Watson, 1979) and upon theory (Gibson, 1968);(Williams, 1979) and (Halliday and Hassan, 1976). For each piece of writing in our sample, we determined the following:

Mean Number of T-units

Mean T-unit length

Mean clause length

Mean number of clauses per T-unit

Mean number of passive constructions per T-unit

Types of cohesive markers used and the mean number of each type per T-unit

Judgments about Acceptability of Style. The alternative drafts identified as "most acceptable" were given a score of 3, drafts rated "less acceptable" were rated 2, and the "least acceptable" versions were scored 1.

Reliability of Judgments. Each interview transcript was read by two judges, each of whom had done graduate work in English and each of whom had taught composition. Using the categories described earlier, these judges achieved an overall agreement of 80% in categorizing reasons workers gave for their choices. Results reported in the following section reflect only those instances in which these two readers agreed on the type of reason a participant had given. The analysis of the linguistic features of writing samples was done by three judges. One judge did the analysis of cohesion. To check the reliability of this judge's scoring, another person made an independent analysis of cohesion in a subset of the total writing sample (10 letters, 10 memos, and 1 caseworker report). The percentage of agreement ranged from 91 (in the letters of one administrator) to 97 (in the caseworker report). Results for cohesion reflect the judgments of the reader who analyzed the entire sample. Analysis of the other linguistic features was done by two graduate students in English, each of whom analyzed one-half of the total writing sample. To assess the reliability of these judges, one of the principal researchers also scored 100 T-units from the writing sample scored by the two graduate students. On the marking of T-units and clauses, the agreement between principal researcher and graduate students was 99%. On the identification of other linguistic features, there was at least 97% agreement.

Results

Sensitivity to Rhetorical Context

Reasons Used in Justifying Choices. Although we shall present separate discussions of administrators and caseworkers, one observation applies to both groups. As Tables 1 and 2 show, it is very unusual for an administrator or a caseworker to justify a given choice by citing an a-rhetorical rule that he or she follows in all circumstances. Instead, most of their reasons can be categorized as "rhetorical"; that is, their reasons reflect a concern for elements of the rhetorical context: speaker, subject, and audience. Administrators were especially likely to be concerned with their audience. Thirty-one percent of their reasons were categorized as I D (writer's decision based on concern about audience's anticipated actions), and an additional 30% were categorized as either I B (decision based on writer's personal relationship with audience) or I C (decision based on writer's awareness of a personal characteristic of the audience). Caseworkers tended to favor subject-based reasons; 36% of their reasons were categorized as III, B (decision based on writer's desire to provide an accurate, complete, non-redundant account) or as III, B (decision based on writer's desire to document a conclusion he or she had drawn). Yet when we consider all reasons given by all administrators and all caseworkers, we find that no single type of reason appears more than 36% of the time. Moreover, again considering all reasons given by caseworkers and by administrators, we find that decisions about a single type of choice might be justified by a variety of reasons (see Tables 3 and 4).

Table 1

Frequency of each type of reason given by administrators

		Type of Reason	No. of Instances of Each Type of Reason	% of Reasons in Each Category
I	A	Status of Audience	9	05
I	B	Relation to Audience	26	14
I	C	Characteristic of Audience	31	16
I	D	Anticipated Action	59	31
II	A	Writer's Role in Organization	4	02
II	B	Writer's Ethos	40	21
II	C	Writer's Feelings	4	02
III	A	Status of Subject	2	01
III	B	Complete Account	7	04
III	C.	Document Conclusion	1	01
IV		A-Rhetorical Reason	8	04
			191	101%[5]

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[5] Percentages do not total 100% since percentages for each type of reason were rounded to the nearest whole percent.

Table 2

Frequency of each type of reason given by Caseworkers

	Type of Reason	No. of Instances of Each Type of Reason	% of Reasons in Each Category
I A	Status of Audience	0	0
I B	Relation to Audience	0	0
I C	Characteristic of Audience	6	04
I D	Anticipated Action	38	23
II A	Writer's Role in Organization	9	05
II B	Writer's Ethos	22	13
II C	Writer's Feelings	0	0
III A	Status of Subject	0	0
III B	Complete Account	59	36
III C	Document Conclusion	26	16
IV	A-Rhetorical Reason	6	04
		166	101%[6]

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[6] Percentages do not total 100% since percentages for each type of reason were rounded to the nearest whole percent.

Sometimes, a particular type of choice would elicit a number of references to one particular type of reason. When administrators gave a reason for preferring a particular way of making a command or request, they frequently (47% of all reasons given for this type of choice) indicated a concern for the audience's anticipated actions (I, D). Yet 34% of their comments on this type of choice indicated an awareness of the ethos they were creating (II, B). When caseworkers justified their choice as to whether they would refer to their own actions, they frequently (43% of all reasons given for this type of choice) indicated that they wanted to create a complete, accurate, non-redundant record, (III, B). Yet in 30% of all reasons given for this type of choice they also indicated a concern for their audience's anticipated actions (I,D) (see Tables 3 and 4).

In summary, caseworkers and administrators rarely justified their preferences by referring to a-rhetorical rules. Instead, they gave rhetorical reasons. Further, one can not assume that a participant's decision about a particular type of reason will always be justified by the use of a single rhetorical reason.

Analysis of Writing Sample. Results reported here are based solely on an analysis of administrators' pink memos, white memos, and letters. Caseworkers wrote letters and memos so infrequently that we were not able to gather an adequate current sample for all caseworkers. To determine whether administrators as a group varied linguistic features according to the types of writing they were doing, we performed a two way analysis of variance (writer by product type) for each of the following: mean number of T-units, mean T-unit length, mean clause length, mean number of clauses

Table 5

Types of reasons elicited by each type of choice: administrators[7]

Type of Choice Type of Reason	Form of Addressing Reader	Presence/ Absence of Introductory Material	Presence/ Absence of Elaboration	Form of Reference to Self	Form of Command or Request	Presence/ Absence of Concluding Statement	Form of Signature
A	26 (8)	0	0	0	0	0	03 (1)
B	19 (6)	15 (3)	17 (5)	05 (1)	03 (1)	10 (3)	23 (7)
C	13 (4)	30 (6)	20 (6)	11 (2)	13 (4)	24 (7)	07 (2)
D	07 (2)	45 (9)	38 (11)	37 (7)	47 (15)	41 (12)	10 (3)
A	03 (1)	0	04 (1)	05 (1)	0	0	03 (1)
B	19 (6)	5 (1)	10 (3)	16 (3)	34 (11)	17 (5)	37 (11
C	0	0	04 (1)	0	0	04 (1)	07 (2)
I A	03 (1)	0	0	0	0	0	03 (1)
I B	03 (1)	05 (1)	04 (1)	11 (2)	0	04 (1)	03 (1)
I C	0	0	04 (1)	0	0	0	0
	07 (2)	0	0	16 (3)	03 (1)	0	03 (1)
Total # of Reasons Given for Each Type of Choice	31	20	29	19	32	29	30
Total of Percentages	100	100	101	101	100	100	99

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[7] In each instance, the number in parenthesis is the number of times questions about a given ty of choice (e.g., form used in addressing readers) elicited a particular type of reason (e.g., I A). Numbers not in parenthesis are percentages. These percentages are derived by dividin the total number of reasons given for one type of choice into the number of times a particula type of reason (e.g., I A) was mentioned for a particular type of choice. Some total percent ges do not equal 100% since percentages were rounded to the nearest whole percent.

Table 4

Types of reasons elicited by each type of choice: Caseworkers

Type of Reason / Type of Choice	Form of Reference to Self	Form of Reference to Client	Reference to Worker's Acts	Reference to Client's Acts	Attribution
I A	0	0	0	0	0
I B	0	0	0	0	0
I C	08 (2)	0	03 (1)	04 (2)	03 (1)
I D	12 (3)	23 (5)	30 (12)	28 (13)	16 (5)
II A	12 (3)	05 (1)	10 (4)	02 (1)	0
II B	50 (13)	27 (6)	0	06 (3)	0
II C	0	0	0	0	0
III A	0	0	0	0	0
III B	12 (3)	36 (8)	43 (17)	23 (11)	65 (20)
III C	0	0	15 (6)	34 (16)	13 (4)
IV	08 (2)	09 (2)	0	02 (1)	03 (1)
Total No. Reasons Given for Each Type of Choice	26	22	40	47	31
Total of Percentages[8]	102	100	100	99	100

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[8] Percentages do not always equal 100% since percentages were rounded to the nearest whole percent.

per T-unit, mean number of between T-unit coordinate conjunctions, mean number of passives per T-unit, and mean number of cohesive markers per T-unit. Some of this variation could be attributed to the practice of individual writers. Analysis of variance, reported in Table 5, showed that writer had a significant effect for eight of the eleven features: mean number of T-units, mean T-unit length, mean clause length, clauses per T-unit, passives per T-unit, reference cohesive ties, substitution cohesive ties, lexical cohesive ties. Furthermore, there were significant interactions between writer and type of writing for the following: mean T-unit length, clauses per T-unit, passives per T-unit, lexical cohesive ties per T-unit. In spite of these interactions, all writers made the same types of distinctions among product types. Writers differed from each other only in the degree to which they made a particular distinction among product types.

To assess the extent to which product type accounts for variation among individual products, we partitioned products into independent, contrasting groups: pink memos versus white memos and memos (both pink and white) versus letters. Planned orthogonal comparisons indicate that administrators varied certain features of their writing according to the types of writing they were doing. Pink memos differed significantly from white memos with respect to these six variables: number of T-units, T-unit length, passives per T-unit, reference cohesive ties per T-unit, conjunction cohesive ties per T-unit, and lexical cohesive ties per T-unit (see Table 5). That is, on average the more informal pink memos contained fewer T-units (6.92 vs 12.48), shorter T-units

Analysis of Variance in Administrators' Writing

Variable	Writer (4,235)	Type (2,235)	Interaction of Writer and Type (8,235)	Pink vs. White Memos (1,235)	Memos vs. Letters (1,235)
Number of T-Units	7.446**	8.613**	1.801	15.37**	1.85
T-Unit Length	8.491**	5.011**	3.164**	7.84**	2.17
Clause Length	5.107**	1.022	1.682	.85	1.19
Clauses Per T-unit	18.539**	.983	2.041*	1.76	.59
Between T-unit Coordination	1.715	1.399	1.081	.71	2.14
Passives Per T-unit	2.477*	8.728**	3.832**	16.41**	2.07
Reference Cohesive Ties Per T-unit	5.760**	8.200**	1.369	13.25**	2.87
Substitution Cohesive Ties Per T-unit	5.610**	3.949**	.937	.07	8.84**
Conjunction Cohesive Ties Per T-unit	1.502	3.475	1.508	6.43*	2.12
Lexical Cohesive Ties Per T-unit	17.511	26.607**	2.728**	51.88**	1.12

* indicates significance at the .05 level
**indicates significance at the .01 level

(14.09 WTU vs 16.40 WTU), fewer passives per T-unit (.22 PTU vs .54 PTU), and fewer reference cohesive ties (.41 RTU vs .60 RTU), fewer conjunction cohesive ties (.09 CTU vs .12 CTU) and fewer lexical cohesive ties (.77 LTU vs 1.83 LTU) per T-unit. All memos, pink and white combined, differed significantly from the letters with respect to one variable; the memos contained more substitution cohesive ties (1.46 STU vs .60 STU) per T-unit than did the letters.

Judgments about Acceptable Style. Since administrators tended to use more passive constructions in white memos than in pink memos, we wondered whether participants would prefer a verbal style in pink memos and a passive or passive-nominal style in white memos. They did not. The verbal versions of all types of writing (pink memos, white memos, and letters) were consistently assigned lower average ranks than were the passive or passive-nominal versions (see Table 6). Surprisingly, participants were more likely to give high rankings to the verbal versions of white memos and letters than to verbal versions of pink memos (see Tables 10 and 11). But even in the case of white memos and letters, verbal versions never received as high an average ranking as did passive versions (see Tables 10 and 11). And with only one exception, the average ranking of verbal versions was not as high as were average rankings given to passive-nominal versions (see Table 10).

Limitations of our sample size prevent our drawing strong conclusions. But verbal versions were consistenly ranked lower than were passive versions. This suggests to us that participants' judgments about passive and active style were not greatly influenced

Table 6

Average scores for Alternative Versions of Pink Memos, White Memos, and Letters

	Verbal	Passive	Passive-Nominal	% of Times Verbal Version Judged Most Acceptable
Pink	1.5	2.3	2.3	12% (4 of 33)
White	1.6	2.3	2.1	24% (8 of 33)
Letter	1.8	2.3	1.9	30% (10 of 33)

by the type of writing they were evaluating.

Variations According to Job

Reasons Used in Justifying Choices. Results of interviews with caseworkers and administrators indicate that there are at least some differences in the types of reasons most frequently used by workers in different types of jobs. Although both groups of caseworkers made use of the same types of reasons, Foster Care workers occasionally justified a choice by expressing their desire to document a personal conclusion (III, C) they had drawn as a result of their dealing with a client (see Table 7). Eligibility workers almost never cited this type of reason. They were, by contrast, very likely to justify a choice by indicating the necessity of making a complete, accurate, non-redundant record (III, B), and, to a lesser degree, they were likely to indicate a concern for the anticipated actions of their audience.

These basic distinctions are also apparent when we consider the types of reasons caseworkers used in commenting on different types of choices (Table 8). With only one exception (choices about attribution), Eligibility workers consistently made more frequent use of reason I, D (anticipated actions) than did Foster Care workers. In commenting on three of the five types of choices, Foster Care workers made use of reason III, C (desire to document a personal conclusion), a reason that rarely appears in interviews with Eligibility caseworkers. One further distinction becomes apparent in Foster Care workers' comments on four types of choices (reference to self, reference to client, workers' acts, clients act). In these comments, Foster Care workers indicated an

Table 7

Types of reasons given by two groups of caseworkers

Type of Reason	Foster Care Caseworkers	Eligibility Caseworkers
I A	0	0
I B	0	0
I C	04 (4)	03 (2)
I D	19 (19)	29 (19)
II A	09 (9)	0
II B	13 (13)	14 (9)
II C	0	0
III A	0	0
III B	29 (30)	45 (29)
III C	23 (24)	03 (2)
IV	2 (2)	06 (4)
Total No. of Reasons	101	65
Total of Percentages[9]	99	100

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[9] Total does not equal 100% since some percentages were rounded off.

TABLE 8

Types of reasons elicited by each type of choice made by two groups of caseworkers

Type of Reason	Type of Choice	Form of Reference to Self		Form of Reference to Client		Reference to Worker's Acts		Reference to Client's Acts		Attribution	
		Foster Care	Elig.	Foster Care	Elig.	Foster Care	Elig.	Foster Care	Elig.	Foster Care	Elig.
I	A	0	0	0	0	0	0	0	0	0	0
I	B	0	0	0	0	0	0	0	0	0	0
I	C	0	15 (2)	0	0	04 (1)	0	06 (2)	0	06 (1)	0
I	D	08 (1)	15 (2)	17 (2)	30 (3)	13 (3)	56 (9)	25 (9)	36 (4)	25 (4)	07 (1)
II	A	23 (3)	0	09 (1)	0	17 (4)	0	03 (1)	0	0	0
II	B	54 (7)	46 (6)	33 (4)	20 (2)	0	0	06 (2)	09 (1)	0	0
II	C	0	0	0	0	0	0	0	0	0	0
III	A	0	0	0	0	0	0	0	0	0	0
III	B	08 (1)	15 (2)	42 (5)	30 (3)	46 (11)	38 (6)	17 (6)	46 (5)	44 (7)	87 (13)
III	C	0	0	0	0	21 (5)	06 (1)	42 (15)	09 (1)	25 (4)	0
IV		08 (1)	08 (1)	0	20 (20)	0	0	03 (1)	0	0	07 (1)
Total No. of Reasons for Each Type of Choice		13	13	12	10	24	16	36	11	18	15
Total Percentages[10]		101	99	101	100	101	100	102	100	100	101

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[10] Some totals do not equal 100% since some percentages were rounded off.

awareness of the writer's role or status in the agency, an awareness that was not expressed by Eligibility workers.

In addition to comparing reasons given by two different groups of caseworkers, we compared caseworkers' reasons with reasons given by administrators. In making this comparison, we must point out that interviews with caseworkers concerned only the choices reflected in one type of writing, reports of meetings with clients. By contrast, interviews with administrators were based on several different types of writing, ranging from informal notes to official letters. We cannot, therefore, refute or support this speculation: If administrators were writing caseworkers' reports, their reasoning might seem quite similar to that of the caseworkers. This speculation seems quite plausible since most of the administrators had previously served as caseworkers in the agency. But plausible as the speculation is, it is beside the point. Our study is based on the type(s) of writing people regularly do as a part of the jobs they currently hold. In preparing for interviews, we found that caseworkers' report-writing simply did not entail the same types of choices as did the administrators' memo and letter writing. Moreover, as Tables 1 and 2 indicate, we found that administrators were much more likely to give audience-based reasons than were caseworkers. Further, administrators gave types of audience-based reasons (I A, status of audience, and I B, personal relation with audience,) that never appeared in caseworker's interviews (see Tables 1 and 2). Caseworkers, by contrast, were much more likely to use a subject-based reason to justify a given choice. We conclude that, for the agency in which our study was conducted, writing typically associated with different types of jobs entails different types of choices based on different types of reasons. Even when doing the same type of writing and commenting on the same types of choices, writers who hold jobs with different functions are likely to use somewhat different types of reasons in explaining their choices.

Analysis of Writing Sample. Differences between the two groups of caseworkers also appear in the linguistic features of their writing. As was the case with the administrators, the individual writer had a significant effect on several variables (see Table 9). But analysis of variance by job type also indicates that the writing of Foster Care workers differed significantly from that of Eligibility on the following variables: Number of T-units, T-unit Length, Clause Length, Number of Clauses per T-unit, Between T-unit Coordination, Number of Passives per T-unit, Reference Cohesive Ties, Conjunction Cohesive Ties, and Lexical Cohesive Ties (see Table 9).

Judgments about Acceptable Style. These judgments vary somewhat among the different groups of workers. For example, as Tables 10 and 11 indicate, Eligibility workers rated the verbal versions of pink memos more highly than did Administrators and Foster Care workers. But Table 10 also shows that one pattern appeared in the rating done by all three groups of workers. On the average, all workers ranked the verbal versions lower than the passive versions. This holds true for all three types of writing, pink memos, white memos, and letters. Because of this overall pattern, we cannot claim that judgments about style vary

Table 9

Analysis of Variance for Caseworkers' Writing

	Foster Care Workers				Eligibility Workers				F(1,30) Foster Care Reports vs. Eligibility Reports	F(4,30) Interaction of Writer and Type
Feature	Worker 1	Worker 2	Worker 3	Average	Worker 4	Worker 5	Worker 6	Average		
TUNITS	10.33	8.83	15.67	11.61	16.00	24.67	12.83	17.83	9.646**	4.188**
WPERT	17.18	10.45	20.74	16.12	8.98	7.07	8.36	8.14	128.639**	19.019**
WPERC	9.11	6.57	13.40	9.69	5.90	7.79	6.27	6.65	6.229*	2.904*
CPERT	.98	.40	.74	.71	.43	.13	.25	.27	23.305**	4.378**
BPERT	.13	.03	.16	.11	.06	.01	.03	.04	9.375**	3.281*
PPERT	.12	.04	.25	.14	.34	.57	.51	.47	35.979**	2.766*
RPERT	.54	1.03	.33	.67	.25	.07	.11	.35	8.713**	2.023
SPERT	.08	.29	.10	.16	.03	.04	.15	.07	2.705	2.268
JPERT	.15	.04	.17	.12	.04	.01	.00	.02	17.012**	3.018*
LPERT	1.47	1.44	1.87	1.59	.62	.79	.51	.64	14.198**	.404

*Indicates significance at the level of .05.
**Indicates significance at the level of .01.

Table 10

Judgments about style: Average Scores Given by Administrators, Foster Care Workers, and Eligibility Workers

	Pink Memos			White Memos			Letters		
	Verbal	Passive	Non-pass	V	P	NP	V	P	NP
Administrators	1.3	2.1	2.6	1.6	2.3	2.1	1.7	2.3	2.1
Foster Care Workers	1.3	2.6	2.2	1.4	2.3	2.1	1.8	2.3	1.9
Eligibility Workers	1.9	2.0	2.1	1.7	2.2	2.0	2	2.2	1.6

Table 11

Percentage of Times the Verbal Version was selected as "Most Acceptable"

	Pink Memos	White Memos	Letters
Administrators	0	27 (4 of 15)	27 (4 of 15)
Foster Care Workers	11 (1 of 9)	22 (2 of 9)	33 (3 of 9)
Eligibility Workers	33 (3 of 9)	22 (2 of 9)	33 (3 of 9)

according to the type of job a worker holds.

Discussion

Results of our study are based on three different sources of information: interviews, analysis of written products, and participants' judgments about acceptable style. Two of these sources lead to similar conclusions. Both our interviews and our analyses of written products indicate that, at least for participants in our study:

1. Writing within a single organization does vary from one group of writers to another:

   --The two groups of caseworkers gave somewhat different justifications for the choices they made in their reports;

   --Texts written by the two groups of caseworkers differed significantly with respect to a number of linguistic features;

2. Writers in non-academic settings are sensitive to rhetorical context:

   --Administrators in our study varied several features of their writing according to the type of writing they were doing;

   --When giving reasons for preferring one alternative to another, both caseworkers and administrators showed a complex awareness of audience, self, and subject;

   --Caseworkers and administrators rarely justified choices by citing an a-rhetorical rule, and they never relied exclusively upon one type of reason in justifying a given type of choice.

These conclusions find little support in our third source of information. When participants in our study made judgments about acceptability of style, those judgments varied only slightly according to the type of job a participant held. On the average, all three groups of participants (administrators, Foster Care workers, and Eligibility workers) preferred passages containing passive constructions. This preference held true for all types of writing. Thus type of job had little influence upon participants' judgments about what constituted "acceptable" style.

These results suggest several lines of inquiry. When we analyzed written products, we used a classification scheme (pink memos, white memos, letters) that was suggested to us by participants in our study. We think researchers should continue to consider participants' understanding of the principal types of writing done in a given setting, since this understanding is based on their familiarity with the job and with the functions writing must serve on the job. Yet we also think researchers should consider other ways of classifying written products. That is, researchers might group writings according to their various purposes or speaker-audience relationships and then determine whether writers vary linguistic features according to their purpose or speaker-audience relationship.

Another line of inquiry begins with our attempt to investigate participants' sense of "acceptable" style. Although we asked participants to comment on writing that had actually been done in the agency, we provided them with no information about the context for these pieces of writing. Since they had no specific information about audience and purpose, their judgments about style may not have been influenced by the same considerations that guide their stylistic choices in their own writing. Given this possibility, we suggest two questions for further research: what stylistic preferences would workers exhibit if they were asked to judge alternative versions of pieces which the workers themselves had written? What stylistic preferences would workers display if, in judging writing done by others, they were given specific information about the writers' sense of audience and purpose?

Two final suggestions for research are based upon our awareness of the rhetorical considerations participants mentioned in their interviews. Many of the choices apparent in workers' writing (e.g., choices about the form of a request, the inclusion of elaboration) are also important in speaking. Thus we wonder: are there other types of choices that appear in both oral and written language? A second set of questions arises from the fact that all participants in our study were experienced workers. All the caseworkers had worked in the agency for at least two years and all the administrators had worked in the agency for ten or more years. Since we have no information about the writing of inexperienced workers, we wonder: Do inexperienced workers make the same types of choices as do the more experienced workers? What reasons compare with reasons given by more experienced workers? Do those reasons change as workers become more experienced? If so, are there factors in the working environment that influence those changes?

We are interested in these kinds of questions because it seems to us that writing in non-academic settings will continue to be a significant area for study. Many people must write with some skill in order to succeed with (indeed, to retain) their jobs. Part of this skill entails the ability to make complex rhetorical decisions. As we understand those decisions, the reasons that govern them, and the means by which workers come to make those decisions more skillfully, we shall contribute to our basic understanding of our discipline and to our ability to teach writing. To repeat a familiar phrase: further research is clearly indicated.

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IV

Writing Outside the English Composition Class: Implications for Teaching and Learning

For composition teachers and researchers, the current interest in literacy has been accompanied by three sets of questions that take us well beyond our traditional concerns as teachers of English. Some of these questions have to do with possible relations between writing and learning. For scholars such as Janet Emig (1980) the question is this: How does the very act of writing contribute to our understanding of the subject we are writing about? For others who have become interested in what classical rhetoricians called Invention, the question is: Can we identify some of the conscious intellectual activity that enables writers to explore a topic systematically and sensitively? A second set of questions has to do with writing in disciplines other than English. What must one know or be able to do in order to write well in, say, biology or sociology? What analytical skills will one need in order to write a well thought out case study or laboratory report? What qualities of style and organization are important for a given discipline? Do different disciplines vary in the demands they make of writers? Do lab reports entail conceptual, stylistic, or organizational skills that differ from those skills required for a case study? A third set of questions has to do with writing in non-academic settings, writing, for instance, that people do as a normal part of their day-to-day work: In a given work setting, how many different types of writing must people be able to do? How do these writers conceive of their audience and purpose? What tacit knowledge guides their performance of routine writing tasks?

Widespread interest in these three sets of questions is relatively new in our profession. For much of this century, the teaching of composition has been dominated by practical stylist rhetoric, a rhetoric that emphasizes Arrangement and Style and pays virtually no attention to Invention. It was only in the mid 1960's that many of us became interested in the rhetorical tradition which assumes that the process of discovery is, in part, systematic, conscious, teachable. It was perhaps five or ten years after this reawakening of interest in Invention that many of us became concerned about the teaching of writing in disciplines other than English, And, except for those of us who teach courses in business or technical writing, interest in non-academic writing is more recent still. Perhaps because each set of questions is so relatively new, perhaps because each is so inherently interesting, we have tended to treat them as entirely separate matters. That is, we have not tried to see whether answers to one set of questions might relate to answers to the other set of questions.[1] Our purpose in this article is to explore this relationship, to try to see whether our understanding of writing in non-academic settings might give us a useful perspective on writing that goes on in colleges and universities. In undertaking this task, we assumed that in order to understand, say, writing in the social sciences, we would need to investigate not only the writing students do in history, political science, or economics courses but also the writing students do when they take jobs related to their major fields of academic study. This assumption may seem problematic, if only because we know that many undergraduates take jobs that are not directly related to their undergraduate majors. We shall address this issue in the final section of this article.

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[1] One notable exception is the work of David Lauerman, Mel Schroeder and Kenneth Sroka at Canisius College in Buffalo, New York. Charged with the responsibility of designing advanced composition courses specifically appropriate for students in different academic disciplines (e.g., business, natural sciences, humanities), Lauerman and his colleagues interviewed Canisius College graduates who held the kinds of jobs that students in, say, business might aspire to. Using interview procedures similar to the procedure we shall describe later in this article, Lauerman and his colleagues devised assignments and classroom activities that introduced students to some of the conceptual, organizational, and stylistic problems they were likely to encounter when they took positions related to their major field of undergraduate training.

To examine some of the relationships between academic and non-academic writing, we worked with two groups of writers: five university undergraduates who had taken extensive course work in economics and political science and five legislative analysts employed by a state legislature. We chose the legislative analysts because they held positions that entailed a good bit of responsibility and yet did not require formal training beyond the bachelor's degree. That is, these analysts held interesting positions that undergraduates might aspire to when they had completed their undergraduate degree. Further, these analysts did some of the kinds of work that might be required in many government offices. They did research, analyzed legislation, wrote various types of memos and reports, and drafted letters (usually signed by a superior) to constituents or to persons in other government agencies. We selected undergraduates in economics and political science since it is not uncommon for students in these fields to plan to work in state or federal government. All of these undergraduates had received good grades in their history, economics, or political science courses and were identified by their professors as being good writers. On the basis of our interviews, our analyses of writing samples, and our review of instructors' comments on undergraduates' papers, we shall answer these questions: How do the two groups of writers (undergraduates and legislative analysts) describe the contexts in which their writing exists? What inferences can we make about the conceptual skills or strategies they employ? How do the two groups differ with respect to conceptual strategies and descriptions of context?

Contexts for Writing

In order to find out what writers understood about the contexts for their writing, we first asked each writer for a sample of the writing he or she typically performed. Then we identified features that appeared in all of the writing done by each participant. Although the writing varied in form (ranging from papers and "take home" examinations for the undergraduates to letters, reports, and memos for the legislative analysts), all of the writers regularly attempted to provide information and/or to justify a conclusion. Modifying a procedure we have discussed elsewhere (Odell and Goswami, in press; Odell, Goswami, Herrington, in press) we identified a number of instances in which each writer had asserted a conclusion, had provided a rationale for a conclusion, and had provided additional information through use of a parenthetical expression, a nonrestrictive clause, a passage beginning _that is_ or _for example_, or a sentence in which a writer commented in more specific detail about an idea mentioned in the preceding sentence. At each of these instances, we asked writers whether they would be willing to delete the passage in which they had provided elaboration or had asserted or defended a conclusion. We assured writers that we felt that the passage in question did not necessarily need to be deleted, and we repeatedly emphasized that we were primarily interested in their reasons for deleting or refusing to delete a given statement. As had been the case in our previous work, this procedure allowed writers to talk in some detail about context. More specifically, the procedure elicited information about the audiences they were addressing and the circumstances in which their writing had been done.

Audience

Both the legislative analysts and the undergraduates repeatedly referred to their audience as they explained why they were or were not willing to delete a given statement. Furthermore, both groups of writers frequently expressed their interest in providing their audience with information or with helping their reader see the implications of a given statement. However, their interviews make it clear that the students and the legislative analysts had radically different conceptions of the audiences they were addressing.

Students invariably spoke of their audience in very impersonal terms: they would refer to "a reader" or "whoever happens to read this." They almost never referred to the primary audience for their writing, the professor who had assigned, graded, and commented on their writing. When students did refer to their professor, they indicated only a limited awareness of the professor's personality or values. They mentioned only those characteristics that would figure in the professor's evaluation of student writing. Furthermore, students' statements about their audience seemed self-contradictory. All of the undergraduates indicated explicitly or implicitly, that their writing must be detailed enough to be comprehensible to a reader who knew nothing about the subject at hand. Yet students either stated or implied that their reader was very knowledgeable. One student declined to omit a particular statement because, he said, one of the two "sacred sins" was "to leave out something [the instructor] thought was important." Another student was unwilling to delete a parenthetical expression in which she defined a specialized term from economics: "[that] is a word I don't think anyone ever heard of." Yet in the next breath, she mentioned that the term appeared in the text for the course and in the notes she had taken from the professor's lecture. For her professed purpose of informing the person who would read her paper, the term needed no definition.

The analysts' perceptions of their audiences differ from those of the undergraduates in almost every respect. They rarely referred to "a reader" or "whoever happens to read this." Instead they usually referred to a specific audience, the person or group who would actually read a given piece of their writing. Furthermore they expressed a very clear sense of their audience's values, of the audience's interests and concerns that went beyond the topic at hand. In writing an argument in opposition to a piece of legislation, one analyst refused to omit a particular piece of information about the legislation: "That's the kind of thing that would immediately...stand out in a legislator's mind...That's the kind of argument legislators like because that's gonna affect people in their district." Another analyst, again writing an argument in opposition to a particular bill, refused to delete her conclusion that the bill would place an "unnecessary burden" on taypayers. "I think the words unnecessary burden are what would be really noticeable to the [legislative committee] members. Anything that would be an 'unnecessary burden' to their constituents, is...most important to them," if only because, as the same analyst remarked in another context, it's "something that they get a lot of telephone calls on."

Analysts attributed different characteristics to different audiences. But all the analysts indicated that their audiences were likely to be similar in several ways. For one thing, all the analysts indicated that their readers could usually make an immediate personal response to what the analyst had written. This was particularly true for "bill memos," in which analysts assess the pros and cons of a given piece of legislation. Analysts must not only write these memos but must also read them aloud at meetings of the legislative committee which is considering a particular piece of legislation. At these meetings, the analyst's audience is free to challenge or raise questions about anything the analyst has said or failed to say in the bill memo. Moreover, the audience, i.e., the members of the legislative committee, is rarely satisfied merely to raise a particular issue; instead the audience can expect the analyst to be able to answer questions or respond to challenges on the spot.

A similar situation holds true for interoffice memos. The writer might not be physically present while the audience reads a memo, but two analysts noted that if they were to omit certain statements from memos to superiors, they could expect to be called to the superior's office and asked to provide the needed information. As in the case of the bill memo, the writers' task would not be completed until the readers' questions were answered, their curiosity satisfied.

Apparently this inquiry is often prompted by another characteristic analysts attributed to their audience. Almost invariably, analysts asserted that their audience knew far less about a given subject than did the analysts and, consequently, frequently had to rely on the analysts' knowledge and judgment. Analysts repeatedly said that their readers expect the analysts to investigate issues thoroughly, going beyond the analysts' present knowledge and anticipating consequences that the audience might not even have considered. For example, in a background memo to a legislator, one analyst insisted on listing examples of specific types of farmlands that would be affected by a recent piece of legislation. His reasoning: Even though he was a specialist on agricultural legislation, the analyst had discovered that the legislation affected more types of farmland than he had previously realized. He reasoned that if the information were unfamiliar to him, it might very well be unfamiliar to his reader, who was engaged in a legislative election campaign. He anticipated that the bill would probably be mentioned in debates or press interviews and, further, that knowledge of the specifics of this bill would almost certainly impress farmers in the legislator's district: "... the more aware she was about the specifics of this bill, the more apt farmers were to buddy up with her."

Circumstances

In explaining their willingness/unwillingness to delete a given statement, analysts would frequently locate that statement (or, indeed, an entire piece of writing) in a sequence of ideas and events that preceded or ensued from the statement. One such sequence was the sequence of ideas that existed within an analyst's writing. For example, one analyst felt it was essential to include a parenthetical element that provided details about an opponent's argument. Since he felt that this argument "didn't hold water," he wanted the argument fully explained so that he could, subsequently, refute it completely. In discussing other pieces of writing, both the analysts and the undergraduates frequently observed that inclusion of a particular statement emphasized the point they were trying to make or that the absence of a particular statement would weaken their argument, making it more vulnerable. Implicitly, all participants in our study, undergraduates and legislative analysts alike, agreed with one analyst (and, of course, thousands of composition teachers) that "an argument has two parts," an assertion and a "follow through," a passage that illustrates, explains, or justifies the assertion.

All the legislative analysts were conscious of the way a given statement related to a sequence of ideas which developed the writer's argument. However, it was very unusual for analysts to refer to only this type of sequence. Quite frequently (in 36 of 42 instances) these references were accompanied by comments about some other type of sequence. Occasionally, (in 14 of 123 instances) analysts would justify including a particular statement by referring to events that took place prior to their writing. For instance, when we asked one analyst whether she would consider deleting a list of examples, she replied: "Never. Not in a million years. Because that was exactly what the Governor's office was opposed to...[these facts had been the crux] of an enormous argument over the past years...." In other words, her statement existed for her in the context of an on-going argument about the subject of her memo.

On at least one occasion, awareness of prior experience helped an analyst justify his unwillingness to elaborate upon one of his assertions. In writing his argument in opposition to a particular bill, the analyst contended that the proposed legislation would have a "chilling effect" on the operation of certain state agencies. When asked if he were willing to delete this conclusion, he refused. Indeed, he mentioned that he might even have elaborated on that conclusion but then remarked "I know the history of the committee and I know that we have had similar bills to this and we have had that argument previously....I can say "the bill will have a chilling effect" to my committee and that will click in their heads....they will think of past bills we've dealt with and [know] exactly what a chilling effect that will mean." The analyst commented that, given their prior experience, committee members "will formulate more detailed arguments in opposition than the one I wrote here."

In addition to commenting on prior events, analysts occasionally (in 31 of 123 instances) mentioned events that were likely to transpire subsequent to a given piece of writing. More specifically, when we asked if they would be willing to delete a particular statement, analysts commented on the ways a reader might think or act if the statement were not in the text. Frequently, they anticipated only a single action: A reader might not understand the implications, might become confused, might raise a particular question. But occasionally, analysts developed a comparatively lengthy scenario. Some of these scenarios entailed such personal consequences as a reduction in their credibility as an analyst. For example, one analyst refused to delete one bit of elaboration because he felt the statement brought his argument to a logical conclusion and that its omission made this particular argument more vulnerable to being "struck down" by a member of the legislative committee he was addressing. The analyst felt rather strongly about this point: "...if the argument is weak, [if] it's not brought to its conclusion, they're gonna have less faith in your analytic ability, less trust in your comments. And once that happens, even when you do have a good argument, they're gonna be leary about it." Another analyst was concerned about the political consequences of one of his statements. In a personal memo to a legislator, the analyst noted parenthetically that the legislator's opponent probably did not understand a particular issue. He was unwilling to delete his parenthetical statement for this reason: "Although the issue I raised might be confusing to some, I just don't think her opponent had looked into it seriously enough... [Since the opponent] doesn't know this stuff [she might be] more apt to carefully look this over and try to understand it herself."

A more Machiavellian sequence was projected by another analyst. In a letter, he claimed that a particular point of view was the only "responsible" position on an issue before the legislature. He was unwilling to delete his claim: "That's...a political strategy. If people we're addressing this to do not take this position, we can come back four weeks from now and call them irresponsible.... We go on record as saying [that only] this position is responsible; any other position they take, we can come down and blast as highly irresponsible, because we've gone on record as saying [that only] this is responsible."

One analyst managed to anticipate both political and personal consequences. She was unwilling to delete a passage which she felt explained a relatively esoteric argument in opposition to a particular bill: "I don't think I'd leave that out, because...to me it would be embarrassing to have committee members say, 'Well, wait a minute. Why is this in the memo....'" She was particularly eager to avoid this embarrassment since "the people who would probably ask [that question] are the people who are more relaxed with me, which are [members of Party A]. And I don't want [members of Party A] to look bad [by allowing members of Party B to] start saying 'Well, you guys don't realize it, but this is actually what happens.'"

In at least two respects, the undergraduates' comments seem similar to those of the analysts. As did the analysts, students indicated that a given statement was important because it helped develop the point they were making. Also, the undergraduates frequently imagined ways a reader might react to the presence or absence of a given statement. Yet these similarities are less significant than they might seem. For one thing, the undergraduates' scenarios tended to be tentative; undergraduates were most likely to project what "a reader" might do or think. Occasionally, the analysts speculated about what a reader might do. But typically they drew upon their knowledge of their readers to predict what the reader would do. The analysts made tentative statements only about half as frequently as did the undergraduates. Further, the undergraduates projected very brief scenarios; they anticipated only a single action as a result of their inclusion or omission of a given statement. Although they anticipated that, for example, a reader might raise a question at a given point, they never speculated about further consequences of the reader's having asked that question. Moreover, they did not relate their individual statements -- or, indeed, their essays -- to a larger sequence of events; most notably, the undergraduates never commented on the experiences which were part of the course for which the paper had been written and which preceded or ensued from the writing of their paper.

Conceptual Strategies

In discussing writers' perceptions of the audience and circumstances for their writing, we have drawn upon interviews in which we asked writers to explain their reasons for being willing (or unwilling) to delete specific statements. By combining this source of information with two others, analyses of written texts and legislative analysts' and university professors' evaluative comments, we can make inferences about writers conceptual strategies, in effect sets of questions which can help guide writers' efforts to explore information, formulate ideas, and evaluate their writing. Our interest in these strategies is based upon several assumptions:

- that writing well entails the ability to explore a topic and generate ideas;
- that parts of the process of exploring data and formulating ideas are mysterious, but that parts of this process involve conscious intellectual activities, conceptual strategies which can be described and taught (see Young, 1976);
- that these strategies may be expressed as sets of questions which writers may ask themselves in order to guide their exploration of a topic (see Larson, 1975).

Our analysis of interviews, written texts, and evaluative comments on written texts indicates that both undergraduates and legislative analysts occasionally used some of the same conceptual strategies. As a rule, however, the two groups of writers appeared to be using different strategies, answering different types of questions. In describing these differences, we do not mean to suggest that writers should always use one particular set of conceptual strategies. Indeed, we assume that different writing tasks may make different demands of a writer and may require a writer to consider different types of questions (Larson, 1975; Maimon, *et al.*, 1981; Odell, 1980). Nevertheless, the differences between the two groups seem important. The analysts were concerned with questions that would lead one to think critically about the text one is writing about. Further, these questions seem useful for both generating ideas and for evaluating a draft of one's writing. The undergraduates, by contrast, seemed concerned with questions that would not lead one to think critically about the subject matter one was discussing and that were more useful for evaluating a draft of one's writing than for generating ideas.

Information from Legislative Analysts

Interviews. We have already pointed out that analysts were very aware of the contexts for their writing; they frequently referred to the audience they were addressing and to the circumstances that preceded or seemed likely to follow from what they had written. This concern for context also appears in their comments about the subject matter about which they were writing. In commenting upon more than half of the passages we interviewed them about, analysts appeared to be concerned with this question: What events preceded or followed from the text (usually a piece of proposed legislation) I am writing about? Especially in discussing their bill memos, analysts would occasionally comment on events that occurred prior to the drafting of the legislation they were discussing. They referred to prior legislation on the same topic or to the circumstances a legislator hoped to rectify by drafting a particular piece of legislation. Somewhat more frequently, analysts noted that a bill either duplicated or contradicted existing law or that the bill established procedures that were incompatible with currently accepted governmental procedures. Still more frequently, the analysts described the events that were likely to ensue from a given piece of legislation, especially the events the bill's sponsor might not have anticipated. For example, one analyst objected to a reasonable-sounding bill that would have required all restaurants to post the detailed results of an inspection by a state agency. In the interview, the analyst pointed out that these inspections are conducted only once every two years, and that the inspections often revealed problems that could be corrected promptly. Consequently, this analyst noted, the proposed legislation could require a restaurant to post a sign indicating that it was deficient in one or more respects when, in fact, the deficiency might have been eliminated as soon as the restaurant owner had been made aware of the problem.

Implicit in the analysts' comments about context is a set of questions which one might ask about any piece of proposed legislation: What events preceded the drafting of the bill? How does the bill relate to existing law or procedure? What are the likely consequences of the bill? These questions, along with several others, are reflected in two other sources of information: bill memos written by the analysts and analysts' evaluation of the researchers' attempts to write bill memos.

Bill Memos. Although bill memos are only one of the several types of writing done by legislative analysts, they are the type of writing that analysts do most frequently. All bill memos contain the same types of information, e.g., information about the legislative history of the bill, arguments in support of the bill, arguments in opposition to the bill, Much of this information is reported rather tersely. For example, a report of the legislative history of the bill simply requires an analyst to determine whether the bill has been introduced in previous years and, if it has been introduced previously, merely to list the action taken on the bill and the dates on which those actions were taken. The arguments in support are usually taken directly from a memo prepared by the bill's sponsor. Consequently, it is usually the "arguments in opposition" section of the bill memo that requires analysts to develop their own arguments.

As we read arguments in opposition, we realized that all of them could be categorized as answering one or more sets of questions. Two of these types of questions, also apparent in the interviews, appear quite frequently. Thirty percent of the arguments in opposition provide answers to this sort of question: How does a given piece of legislation relate to existing legislation or the existing procedures? Does the legislation violate, duplicate, or repeal this other legislation or these other procedures? Another type of question that appears even more frequently (i.e., in 48% of the arguments in opposition) is this: What are the consequences of a particular piece of legislation? Will it have a negative effect on some person or institution? Is it too inclusive? Is it not inclusive enough? That is, does the legislation fail to apply to persons or institutions that it should apply to?

In addition to these two basic sets of questions, the bill memos occasionally answered three others: Is the legislation needed? Will the legislation achieve the sponsor's intent? Can the provisions of the legislation be implemented? These three additional questions appear much less frequently than do those cited in the previous paragraph. Issues of need are mentioned in only 5 percent of the arguments in opposition; references to sponsor's intent appear in 8% of the arguments in opposition, as do references to implementation.

Evaluations of Researchers' Writing. To complement our initial interviews and our analysis of arguments found in bill memos, we asked legislative analysts to evaluate our attempts to write one part of a bill memo, the part containing the arguments in opposition to a given piece of legislation. In all cases we wrote about bills for which analysts had previously written their own arguments in opposition. We interviewed the analysts separately, posing this request: "Assume that I am an intern or an assistant analyst whom you have asked to write arguments in opposition to X bill. Would you be willing to include my arguments in opposition in your bill memo?" We asked analysts to read our arguments aloud and to pause and comment on any statement that seemed particularly acceptable or unacceptable.

In general, analysts were concerned with the same issues we have already identified. That is, they were likely to praise (or criticize) our arguments insofar as we had considered (or failed to consider) such matters as the feasibility of the bill and the consequences that might ensue if the bill were to become law. Further, their evaluations of our work indicated some additional questions one might consider in analyzing a bill: Are the provisions of the bill clear? Does the bill stipulate exactly what procedures are to be followed and who shall follow those procedures? Who might be affected by the bill? What are the characteristics of people or organizations who might be affected? How might they react to the bill?

While evaluating the arguments we had written, analysts expressed their concern for these and other questions we have mentioned. But their comments make it clear that analysts did not evaluate our work simply by determining whether we had considered all the questions one might raise concerning a given bill. Instead they expected us to consider this question: How will our audience (members of a legislative committee) respond to the criticisms we have made? For example, when we criticized a bill's feasibility by saying that it attempted to address a problem of worker safety that appeared to be unsolvable, the analyst objected: "I think if a committee member saw that, he would immediately cause an uproar. They would look at it and start worrying about workers' safety. And if people [other than legislators] saw this -- that we might be saying 'we've got a problem on our hands that could cause lung cancer. . . [and that] we might not be able to solve [it]' -- we'd have labor unions coming down on us. I would be very careful about doing something like that in a memo." Another analyst reminded us of the need for diplomacy in raising arguments in opposition to a bill which might have been sponsored by a member of the committee for whom we were writing.

In addition to expecting us to anticipate our audience's reaction, analysts made it clear that we must consider ways our answer to one question might lead us to revise or discard altogether our answer to another question. Thus one analyst rejected our argument that a particular bill would have undesirable consequences, that it would be burdensome to one group of citizens since it required them to take a very active role in carrying out the legislation. As the analyst pointed out: "if they were known to be an apathetic group it might put a burden on them and they might not want to participate. But [group X is] politically active. [Group X has] one of the strongest lobbyist organizations in the state, and in that way they are very politically conscious. I think they want to stay on top of things." In short, we had not carefully considered the characteristics of people who would be affected by the legislation, and therefore our assessment of the consequences of the bill was invalid.

In at least one instance, an analyst's evaluation of our writing seemed self-contradictory. In analyzing a bill that sought to regulate working conditions for a group of state workers, we were very concerned with this question: How clear and specific are the provisions of this legislation? In our bill memo, we pointed out that the bill was weak because it was not specific; it failed to explain precisely which working conditions would be improved. The analyst approved of this argument, noting "what I've found from my dealings with state agencies is that. . .if we don't specify what we want and [if] we give them too much leeway, they tend to slack off." But for another argument on the same bill, the analyst was unwilling to accept the argument that the bill was weak because it failed to specify the health standards which workers should be able to expect. The analyst pointed out that even the proponents of the bill had not identified these standards "either because they didn't know of any safe standards or because they were afraid that if they put them into law [the standards] might be too strict and people might object to them on that basis. Or they might be too lenient, in which case they wouldn't be good enough [to suit the workers who would be affected by the legislation]." In this case, the lack of specificity was a strong point of the bill since it enabled the sponsor to avoid "a lot of negotiations with the people involved."

These last comments, of course, make it clear that the analyst's evaluation was not self-contradictory. In both instances, she was aware of events that had preceded the bill in question and of events that might transpire if the bill were (or were not) made more specific. In one instance, this awareness told her that the bill's lack of specificity was a weakness of the bill; in another instance, the same awareness told her that a lack of specificity might be one of the bill's strong points.

From these sources of information -- interviews, analyses of bill memos, and analysts' evaluation of our writing -- we get a sense of the questions one might consider in analyzing a piece of legislation:

What are the likely consequences of this legislation?

How does it relate to other laws or procedures?

Is this legislation needed?

Will this legislation achieve the sponsor's intent?

Can this legislation be implemented?

Whom will the legislation affect?

Does the legislation stipulate what procedures are to be followed?

In answering these questions, it also seems important to keep in mind two additional questions: How does the answer to any one of these questions influence the way an analyst answers the other questions? How is an analyst's audience likely to react to the analyst's answer to any of these questions?

Taken together, these questions constitute a heuristic procedure for analyzing legislation. They represent a set of conscious strategies one might use in determining what bases there might be for opposing a piece of legislation. We cannot, of course, claim that these questions embody all the conscious intellectual activity a legislative analyst must engage in. On the other hand, we do argue that these questions have some epistemological significance;

they can help guide one's analysis of a particular type of text. They can help a writer formulate the arguments he or she will present in a bill memo. Further, these questions can be useful in evaluating a draft of a bill memo. That is, before presenting a bill memo to a legislative committee an analyst might ask himself or herself such questions as these: Have I determined whether this legislation is needed? Have I identified the individuals or groups it might affect? Have I considered ways committee members might respond to my answers to the preceding questions?

Information from Undergraduates

Interviews. As we noted earlier, undergraduates were rarely concerned with the same kinds of questions as were the legislative analysts. The undergraduates, for example, almost never dealt with this sort of question: What is the context for the materials I am discussing? In all our interviews with the five students, we found no instances in which a student mentioned events that preceded the writing of a text (usually a book or article) he or she was discussing. We found relatively few instances in which students noted a relationship between a particular text and other texts or ideas that had existed concurrently with the text under discussion. In all but one of these instances, the student was talking about a paper in which the instructor had specifically asked students to comment on this sort of relationship. Finally, we found only two instances in which students mentioned a consequence of the texts they had read and were writing about. Unlike the analysts, the undergraduates gave little indication that, when they commented on texts they had written about, they were concerned with such questions as these: What events led up to the text I am writing about? How did this text relate to concurrent ideas or texts? What were the consequences of this text?

Instead of these questions, students seemed more concerned with a different set of questions which they seemed to be using to evaluate their own writing rather than to analyze what someone else had written:

> Have I justified my conclusions? Have I backed up my assertions with evidence?
>
> Have I defined specialized terms or familar terms that have an unusual meaning in a particular context?
>
> Have I made my ideas "flow" smoothly? Does each conclusion follow logically from the previous conclusion?
>
> Have I answered the question the professor asked?
>
> Have I avoided oversimplifying complex issues?

Undergraduates' Essays. To obtain a sample of undergraduates' writing, we asked that each provide us with at least three formal papers (as opposed to journals or in-class examinations) which had received a grade of A or B and which represented writing they felt was typical of the writing they had been asked to do in college. We wanted to have a reasonable basis for comparing this undergraduate writing with that of the legislative analysts. Since in the materials we examined, analysts were writing about specific texts (i.e., drafts of specific pieces of legislation), we identified all the points at which each undergraduate made some comment about another text (e.g., a book or a magazine article). At each of these points we considered this question: In discussing this text, does the student comment on any of the issues (e.g., consequences, feasibility) that appeared so frequently in the legislative analysts' writing?

Comments about these issues did appear in undergraduates' writing, but they appeared relatively infrequently. As was the case with the legislative analysts, students were most likely to consider the consequences of a given text or to consider its relation to other texts. But neither of these concerns appeared in more than 15 percent of the paragraphs in students' essays. Other matters (e.g., can the ideas in this text be implemented?) appear even less frequently. Indeed, students seemed relatively uncritical of the texts they were writing about. Most frequently, they simply paraphrased or quoted these texts as documentation for the points they wanted to make. They were very unlikely to make statements that implied they were aware of limitations of or problems with the texts they were citing in their own essays.

Professors' Evaluative Comments. When we examined professors' marginal and summary comments on students' papers, we found that students were occasionally encouraged to think about the kinds of questions that legislative analysts so frequently considered. Seven percent of the professors' comments encouraged students to consider the way one text related to another; another seven percent of these comments raised questions as to whether the ideas in a text could actually be implemented. Fifteen percent of the professors' comments focussed on the likely consequences of texts students were analyzing. However, professors were much more concerned with matters of grammar and style (about 30 percent of their comments fell into this category) and about students' knowledge of the material they were discussing (about 20 percent of their comments fell into this category.) Unlike the legislative analysts who evaluated our writing, the professors never wrote comments that indicated that answers to one question might influence one's answer to another question.

As was the case with the legislative analysts, we can draw upon our three sources of data to represent at least some of the undergraduates' conceptual strategies as a list of questions:

Have I justified my conclusions?

Have I defined key terms?

Do my ideas relate logically to each other?

Have I answered the question the professor posed?

Have I avoided oversimplifying complex issues?

Have I summarized my sources accurately?

Is my information correct?

Have I ignored information the professor thinks is important.

All of these are questions that writers might do well to ask, especially once writers have a draft which needs to be evaluated and revised. But these questions do not seem likely to lead one to think critically about the text one is writing about. These questions might lead a writer to gather additional information. But, with one exception (Is my information correct?), they do not prompt a writer to assess the validity of that information. Moreover, these questions seem less helpful when writers are in the early stages of the composing process, when writers are trying to explore information and formulate their ideas, feelings, attitudes. On the other hand, questions used by the legislative analysts seem useful throughout the composing process. When one begins to consider a topic, one might ask: What are the consequences of this? Who will be affected by it? As one answers such questions as these, one can begin to formulate the conclusions which, as part of a draft, one will evaluate and revise. Another problem with the undergraduates' questions is that they seem far more general than do those posed by the legislative analysts. Indeed, the analysts' questions might help one see how to go about answering the undergraduates' questions. For example, in order to determine whether one's conclusion is justified, one might ask: Have I fully considered the consequences of the material I am discussing? Have I considered the consequences of the assertions I am making in my writing?

In other words, it seems to us that the legislative analysts are using a set of conceptual strategies that are more focused more analytic, and more useful throughout the composing process than are the conceptual strategies used by the undergraduates.

Implications for Teaching

Early in this article, we raised the possibility that the study of writing in non-academic settings might help us think more clearly about the writing that college and university students must do. When we began our study, we had expected to find substantial differences between writers in academic settings and writers in non-academic settings. Since the non-academic writers held jobs comparable to positions sought by some undergraduate students of history, political science, and economics, we had anticipated that our study might have implications for the teaching of writing in these academic disciplines. We now feel that results of our study have implications for the teaching of writing in any academic discipline. Further, we think that these results suggest ways writing relates to students' understanding of a given body of subject matter. That is, when we contrast the work of the undergraduates with that of the legislative analysts, we see writing not merely as a process of organizing and expressing ideas, but also as a process of formulating ideas, as a process of learning. To suggest the implications of our work, we shall review what we found to be the major distinctions between writers in an academic setting and writers in a non-academic setting. With each distinction, we shall also raise a series of questions that can help one re-think the relations between writing and learning in various academic disciplines.

Perhaps the most important distinction is the last one we described: unlike the undergraduates, the legislative analysts in our study displayed a set of conceptual strategies that were relatively well-focussed and that were useful throughout the composing process -- i.e., useful in analyzing data and formulating assertions as well as in evaluating those assertions once they appeared in a draft. Given the importance of these strategies for at least one group of non-academic writers, a college or university professor might want to consider these questions: How can I show students how to make conscious use of these strategies? How can I teach them, for example, to think critically about texts they read by considering the consequences that might logically flow from ideas expressed in those texts? These are useful questions; as one teaches students to use a particular set of cognitive strategies, one works toward two goals; helping students understand more fully the texts they read and increasing their chances of writing essays that seem well-thought out. But we think this question is unnecessarily limiting, for we believe that different disciplines, even different subjects within a single discipline, require writers to use different conceptual strategies (see Maimon, et al., 1981). Perhaps a more widely useful set of questions is this: What kinds of data do I want students to write about? What kinds of questions should they consider in order to think and write well about this data? What kind of intellectual work do I want them to do?

At least initially, answers to this last question come readily to mind. We want students to think critically, imaginatively, logically.... The problem is that these goals are difficult to define in ways that are useful to students. Indeed, it is quite easy to mislead ourselves about the kind of intellectual work we are asking student writers to do. For example, one colleague informed us that he was particularly eager for his students to "think critically" about a book he had asked them to write about. This instructor did not define the term think critically, but we imagined several operations it might entail: considering the implications of the text; determining whether the text contained evidence that actually supported the author's claims; testing the author's conclusions against one's own experience or one's knowledge or related areas; trying to determine whether the circumstances in which the text was written might bias the author's presentation of information. However, when we read students' papers, we realized that none of this was important for the assignment at hand. The instructor had given A's to those students who had summarized accurately and fully the complex argument found in the book they had read. B's went to students who had mentioned all the main points and most of the more subtle points in the arguments. C's went to students who had missed the more suble points, and so on. Of course it is perfectly reasonable to ask students to summarize a complex argument. But when we evaluate students on the basis of their ability to summarize, we mislead ourselves and our students by claiming that we are expecting students to think critically.

As one might expect, it is not easy to assess the intellectual demands of the writing assignments we give students. However, there are two procedures that will help us identify some of these demands. If we have given an assignment in previous semesters, we can analyze student papers, asking this question: Do we find in the best papers answers to questions that rarely or never appear in the poorer papers? A more demanding but more rewarding procedure is for us to do our own assignments, paying attention to the kinds of questions we have to answer in analyzing information and formulating our ideas. Difficult as these procedures are, they will let us help students see more clearly how they might approach a particular task. Moreover, as we understand the conceptual demands our writing tasks make, we can solve some problems that arise when we try to change the audiences and circumstances for student writing.

When legislative analysts referred to the audience for their correspondence and bill memos, they talked of an audience that was relatively uninformed about the topic at hand, an audience that relied upon the writer to provide information and to identify implications of a given set of facts, an audience that would make an immediate response to a writer's work and would not consider the writer's task complete until the writer had answered all the audience's questions. For at least two reasons, it is difficult to establish this writer-audience relationship between students and teachers. First, there are many situations in which we may reasonably expect students to write about subjects with which we are thoroughly familiar. Further, it is difficult to respond immediately to students' writing. Many of us feel we are doing well if we can return papers within a few days of the time students turn them in, and we feel very conscientious, indeed, if those papers bear comments as well as grades.

Despite these difficulties, it would still be worth our while to try to establish the sort of writer-audience relationship that the legislative analysts describe. As writers and as readers, we must acknowledge that the most stimulating topics are those which are open to serious debate, the most interesting questions are those to which we (as writer or as reader) do not already know the answer. Moreover, there is something inherently inefficient about the way we usually respond to student writing. Our response usually comes too late to be of any use to students. Unless we are among the comparatively few teachers who have established an elaborate system of conferences or who require students to revise their work, students are unlikely to do anything about our questions. Consequently, our questions cannot influence the writing of the paper we are commenting upon, and there is at least a good chance that our questions will not influence the next paper students do -- especially if students' next papers will be written in a subsequent semester and will be read by someone who wants students to consider a set of questions that may be quite different from those we have asked.

One way to change the relationship between student-writer and teacher-audience is to ask students to do a number of short writing tasks which students might read aloud in class and which we might respond to orally. We might, for example, stop at some point during a lecture or a discussion and ask students to write for a few minutes, speculating on the implications of a point that has just been made. Although we might want to collect these writings, we would not have to do so. We could simply call on individual students to read what they have written and, without seeming like inquisitors, ask students to respond to our questions about what they had written. If we were to do this fairly often, and if we were to pose the sort of questions we expected students to answer in their longer, out-of-class essays, we would help students gain a clearer sense of the demands of the tasks we assign.

Another way to change the writer-audience relationship is to ask ourselves these questions as we plan the work of a given course: Does the course raise issues about which I am genuinely curious? Are there topics that are accessible to students and that are also complex enough to allow me to respond to students' writing as someone who wants to find out something? Are there topics which allow students to observe data that I have not had a chance to observe?

One ready response to these questions is simply to assign a library research paper, perhaps suggesting some possible topics or perhaps simply telling students to write on any topic that interests them and that is related to the subject matter of the course. This sort of response increases the chance that students may write about subject matter with which we are not familiar. But is also raises some problems. Our interviews and our analyses of students' essays suggest that when undergraduates refer to other people's writing, especially secondary sources, they are more likely to paraphrase and synthesize than to analyze and evaluate the materials they read. Thus simply assigning a term paper or a research paper may not help students develop their ability to analyze the texts they read. Another problem is that, left entirely to their own devices, students often choose topics that are simply inappropriate: the scope is much too grand or too limited; the topics presuppose knowledge or conceptual skills that students may not possess.

In proposing that we change the writer/audience relationship between students and teachers, we are, quite obviously, also suggesting that teachers may need to change their conception of writing, expanding that term to include short, informal tasks as well as essays and term papers. Further, we are suggesting that teachers may need to identify new kinds of topics for students to write about. All of these suggestions presuppose that teachers have identified the important conceptual demands of the writing tasks they assign. If teachers have some sense of these demands, they can frame their questions so that they have some unity, so that teachers do not ask dozens of different questions but rather ask related questions which help students understand the basic cognitive skills the teacher wants students to work with. Another benefit of having assessed the conceptual demands of one's writing assignments is that a teacher will have a good way of evaluating students' writing. If teachers ask students to write on topics about which teachers are not well informed, it will be impossible to evaluate students' writing by the criterion implicit in this professor's comment: "I hear myself here -- you seem to have understood perfectly what I tried to show in class. It's nice to know that at least one person is listening. A+." Instead of basing grades on students' ability to remember conclusions the teacher has drawn, instructors can base their grades on students' ability to articulate their own conclusions that reflect students' use of basic conceptual processes that are central to the course.

In identifying these processes and making them central to a particular course, we begin to minimize one final distinction between the writing of the undergraduates and the legislative analysts in our study. As we have pointed out, the analysts occasionally located their writing in a sequence of events that were part of their experience in working at the job for which they were writing. The undergraduates did not locate their writing in comparable sequences of events. None of them referred to experiences that were part of the course for which they were writing and that led up to or followed from the essays about which we interviewed them. They gave us no indication that a particular piece of writing was part of a progression that led them from Point A, the knowledge and skills with which they entered the course, to Point B, the knowledge and skills the teacher hoped they would have by the end of the course. This seems incongrous, for all of these undergraduates were bright, articulate young people who had evidently done a great deal of work in writing their papers. Yet they gave no indication that they saw their writing as part of the overall plan for the course for which they were writing. We think this is a serious problem in part because we think writing should not be merely an added burden that teachers impose on students; we think that doing a writing task should be central to "doing" an academic subject. Certainly, the legislative analysts reported no disjunction between doing their writing and doing their job. Indeed, one type of writing -- the bill memos -- entailed a set of conceptual strategies that were central to the analysts' jobs. These analysts had access to a specific set of strategies that helped them formulate their ideas and that were -- perhaps more important -- recurrent; analysts were obliged to employ these strategies time and again.

As we have already indicated, we do not believe that all undergraduates in all courses should be asked to use any one particular set of strategies. But we do believe that teachers need to ask themselves these questions: What conceptual strategies comprise the core of my course? What kind of intellectual work do I want students to do throughout my course? As teachers answer these questions, they will increase their ability to help students see how a particular writing assignment fits into a particular course, to help students see the connection between writing and learning.

In the last assertion, we hope we make clear our understanding of the value of studying writing in non-academic settings. We are not suggesting that we use our knowledge of this writing to reduce academic writing (or, indeed, academic course work) to a form of vocational training. As we acknowledged early in this article, many students do take jobs that are not closely related to their undergraduate major. Consequently, it seems difficult to justify training students to meet the highly specialized demands of a particular job. What we are suggesting is that when we look outside our classrooms, we gain new information that helps us reconsider our practices as teachers of writing and as teachers of a particular subject matter. That information leads us to encounter a series of new and troublesome questions, questions which will cause us to rethink our assumptions and teaching practices, questions which lead us to see how we can help students become truly literate, in our own discipline, in other academic disciplines, and in the world outside our classroom.

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